

Oct. 16 (MON)	14:00-18:00	Registration									
	14:00-15:30	(Room S) MP1S Best Student Papers Contest					16:00 - 17:40	(Room S) MP2S Best Student Papers Contest			
	18:30-20:30	Welcome Reception									
	08:00-08:30	Registration									
Oct. 17 (TUE)	08:30-09:15 Opening Ceremony (Room O)	08:30-08:35	Address from NCANT2017 Executive Chair, Vice President of Air Force Engineering University, Prof. Weimin Li						Chaired by Prof. Wei Hong APEM Week Co-General Chair		
		08:35-08:40	Address from Vice President of Xidian University, Prof. Yintang Yang								
		08:40-08:45	Address from APEM Week Co-General Chair, Academician of Chinese Academy of Engineering, former president of Xidian University, Prof. Baoyan Duan								
		08:45-08:50	Address from APEM Week Co-General Chair, Director of CIE Antenna Brunch, Prof. Dongwei Li								
		08:50-08:55	Address from NCANT2017 Chair Prof. Shuxi Gong								
		08:55-09:00	Address from APCAP2017 Chair Prof. Zhi Ning Chen								
		09:00-09:05	Address from AP-EMC'2017 Chair Prof. Erping Li								
		09:05-09:10	Address from IEEE AP-S Elected President Prof. Weng Cho Chew								
	09:15-09:45	Conference Photo									
	10:00-12:00 Keynote Speech	Room O	10:00-10:40	Keynote 1	深空探测发展展望与思考 张荣桥 研究员				Chaired by Prof. Hou Zhang		
			10:40-11:20	Keynote 2	Deep Multiscale, Characteristic Mode, Computational Imaging, and Quantum Effects Problems Prof. Weng Cho Chew				Chaired by Prof. Long Li		
			11:20-12:00	Keynote 3	EMC for Emerging Technologies Prof. Jame Drewniak				Chaired by Prof. Erping Li		
	12:00-13:30	Lunch									
	Place	Room A			Room B	Room C	Room D	Room E	Room F	Room G	Room H
	13:30-15:20	TP1A (Special Session) Challenges on Wireless Performance Testing for 5G/mmWave/Beamforming/WiFi/Massive MIMO/Driverless Car			TP1B Antennas	TP1C Antennas	TP1D Antennas	TP1E Antennas	TP1F (Special Session) Special Session on Women in Antenna	TP1G Antennas	TP1H Antennas
	13:30-17:50	(Room I) TP1I <b>Special Session:</b> EM and antennas education and research: session in honor of Prof. Wen-Xun Zhang on his 80 <sup>th</sup> birthday									
15:10-16:00	(Room P) Poster Session: TP-C (Best Student Papers Contest) & TP-P & Coffee Break										
16:00-17:50	TP2A (Special Session) Challenges on Wireless Performance Testing for 5G/mmWave/Beamforming/WiFi/Massive MIMO/Driverless Car			TP2B Antennas	TP2C Antennas	TP2D Antennas	TP2E Antennas	TP2F (Special Session) Special Session on Women in Antenna	TP2G Antennas	TP2H Antennas	
	(Room J) TP2J (Joint Session) Signal Integrity and Power Integrity					(Room K) TP2K (Joint Session) Wireless Communication EMC					
18:30-20:30	Dinner										
Oct. 18 (WED)	08:00-09:50	WA1A (Special Session) New Small Antennas for Next-Generation Terminals			WA1B Antennas	WA1C Antennas	WA1D Wave Propagation	WA1E Electromagnetics	WA1F (Special Session) Characteristic Mode And Its Applications	WA1G (Joint Session) EMC Measurements and Environment	WA1H (Joint Session) Low Frequency and Power Electronics & Lightning
	09:40-10:30	(Room P) Poster Session: WA-P & Coffee Break									
	10:20-12:10	WA2A (Special Session) Novel Antenna and 3-D Printed Design for Practical Applications			WA2B Antennas	WA2C Antennas	WA2D Wave Propagation	WA2E Electromagnetics	WA2F Microwaves, Millimeter Waves, and THz	WA2G (Joint Session) Numerical Techniques for Solving EMC Problems	WA2H (Joint Session) High Power Electromagnetics
	12:10-13:30	Lunch									
	13:30-15:20	WP1A (Special Session) Miniaturization and De-coupling Techniques for Base Station Antennas			WP1B Antennas	WP1C Antennas	WP1D Measurements	WP1E Electromagnetics	WP1F Microwaves, Millimeter Waves, and THz	WP1G (Joint Session) Phased Array Design the Measurement Challenges	WP1H (Joint Session) High Power Electromagnetics
	15:10-16:00	(Room P) Poster Session: WP-P & Coffee Break									
	16:00-17:50	WP2A (Special Session) Graphene based micro/millimeter wave components			WP2B Antennas	WP2C Antennas	WP2D Measurements	WP2E Electromagnetics	WP2F Microwaves, Millimeter Waves, and THz	WP2G (Joint Session) Phased Array Design the Measurement Challenges	WP2H (Joint Session) Low Frequency and Power Electronics
	18:30-20:30	Banquet & Best Student Papers Award									
Oct. 19 (THU)	08:00-09:50	TA1A (Special Session) Current Trends and Advances in Computational Inverse Scattering - Theory, Techniques, and Applications			TA1B Antennas	TA1C Antennas	TA1D Measurements	TA1E Electromagnetics	TA1F Microwaves, Millimeter Waves, and THz	TA1G (Joint Session) Low Frequency and Power Electronics	TA1H (Joint Session) Low Frequency and Power Electronics
	09:40-10:30	(Room P) Poster Session: TA-P & Coffee Break									
	10:20-12:10	TA2A (Special Session) Current Trends and Advances in Computational Inverse Scattering - Theory, Techniques, and Applications			TA2B Antennas	TA2C Antennas	TA2D Measurements	TA2E Electromagnetics	TA2F Microwaves, Millimeter Waves, and THz	TA2G (Joint Session) System-Level EMC and Protection & Automotive, Railway and Naval EMC	TA2H (Joint Session) IC and Semiconductor EMC
	12:10-13:30	Lunch									
	13:30-15:20	TP1A (Special Session) New Generation Antenna Array Synthesis: Methods, Algorithms, Architectures, and Applications			TP1B Antennas	TP1C Antennas	TP1D Wave Propagation	TP1E Electromagnetics	TP1F Antennas	TP1G (Joint Session) Nanotechnology and Materials & IC and Semiconductor EMC	TP1H (Joint Session) Computational Electromagnetics & Multiphysics & Wireless Communication EMC
	15:20-15:50	Coffee Break									
	15:50-17:40	TP2A (Special Session) New Generation Antenna Array Synthesis: Methods, Algorithms, Architectures, and Applications			TP2B Antennas	TP2C Antennas	TP2D Antennas	TP2E Antennas	TP2F Antennas	TP2G /	TP2H /

2017 Asia-Pacific Electromagnetic Week

# 2017 IEEE 6<sup>th</sup> Asia-Pacific Conference on Antennas and Propagation (APCAP2017)

## Technical Program

October 16-19, 2017

Shaanxi Guesthouse, Xi'an, China



# APCAP2017 Sponsorships

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## **Greetings from APEM Week Co-General Chairs**

Welcome to Xi'an – one of the four major ancient civilization capitals that enjoys equal fame with Athens, Cairo, and Rome. It is our great pleasure to welcome you to 2017 Asia-Pacific Electromagnetic Week (APEMW2017) to be held at Shaanxi Guesthouse on 16-19 October, 2017, is comprised of 2017 National Conference on Antennas (NCANT2017), 2017 Asia-Pacific Conference on Antennas and Propagation (APCAP2017) and 2017 Conference on Electromagnetic Compatibility (AP-EMC'2017).

Based on the invaluable commitment of 172 reviewers, the members of the technical committee constituted an excellent program comprising more than 1232 presentations. The regular program which is organized in 129 oral sessions and 8 poster sessions, is complemented by 13 special sessions and 136 invited talks covering most relevant topics. This includes the contribution to focus sessions devoted to antennas, propagation as well as electromagnetic compatibility, and to the latest developments in academia and industry. At the opening ceremony, internationally renowned speakers will discuss latest trends in their keynotes at the conference. Rongqiao Zhang, General Designer of Chinese first Mars exploration will address the conference on sum and prospect of deep space exploration. Prof. W.C.Chew from Purdue University, West Lafayette, IN, USA will address Deep Multiscale, Characteristic Mode, Computational Imaging, and Quantum Effects Problems in several frontiers. James Drewniak from Missouri University of S&T, USA will highlight several trends in EMI research with examples in the fields of above 10 GHz emissions, intra-system EMI, radio-frequency interference, noise source identification and modeling, mitigation techniques with new materials, tools, and design methodologies.

Hopefully, the program will let you enjoy APEMW2017 in Xi'an and will give you plenty of opportunities to satisfy your professional curiosity, thus making 2017 a truly PRIME Year in your calendar. Yet, don't forget to explore Xi'an with its rich cultural past and also its more recent landmarks reminding us where the city's historical events that shook us.



APEM Week Co-General Chair  
Prof. Wei Hong  
Southeast Univ.



APEM Week Co-General Chair  
Prof. Baoyan Duan  
Xidian Univ.



APEM Week Co-General Chair  
Prof. Dongwei Li  
39th Inst.

## Greetings from APCAP2017 Chairs

Welcome to 2017 Asia-Pacific Conference on Antennas and Propagation (APCAP2017), which has been successfully inaugurated in Singapore in 2012 and held in Chiangmai, Thailand in 2013 and Harbin in 2014 and Bali, Indonesia in 2015 and Kaohsiung in 2016. APCAP 2017 will offer a rich scientific program of the highest quality with keynote and invited speakers from all over the world and provide a broad forum of exchange for both academia and industry with the aim of fostering collaboration between them.

This year we have received over 762 papers from 18 countries/regions, not only from Asia-Pacific countries but also from America, Europe and Africa. We cordially welcome you to APCAP2017. Besides, we would like to take this opportunity to express our sincere appreciation to the leading scientists, session organizers and all contributors for their great help and valuable supports to APCAP2017. Many thanks also to the Technical Program Committee, the Organizing Committee and the International Steering Committee as well as the sponsors and the technical sponsors for their efforts to bring all the participants an excellent technical program and an opportunity to spend a pleasant time at the conference.

The antennas and propagation technology, as one of the most brilliant achievements of mankind in the last century, has become more and more important in human life. The application of antennas and propagation technology has benefited mankind in many ways. APCAP2017 will provide a broader forum for worldwide scientists and engineers of varied backgrounds to exchange information and share research results to discuss collaborations in the fields of antennas and propagation. The conference is also a platform for the new faces to become known and for the previous attendees to refresh their friendships.

With the inclusion of the conference proceedings to the IEEE Xplore Data Base, the Open Access Journal EPJ Applied Metamaterials (EPJ AM) will publish Special Issue of the EPJ AM Journal on APCAP2017 titled “Metamaterial Applications to Antenna Engineering”. The presentations of this conference will be accessible to a wider range of readers and will have continual impact to this research field.

Xi'an is one of the most famous ancient capitals of China. It is also one of the most important sightseeing cities in China with its many historic spots and beautiful scenery. We hope all of attendees an enjoyable and memorable stay in Xi'an, China.



APCAP General Chair

Prof. Chen Zhi Ning

National University of Singapore



APCAP General Chair

Prof. Yongchang Jiao

Xidian University



APCAP General Chair

Prof. Jiaqi Liu

TP&NM Lab



## Message from the Technical Program Chairs

On behalf of the Technical Program Committee (TPC), we welcome all of you to attend the 2017 Asia-Pacific Conference on Antennas and Propagation (APCAP2017) in Xi'an, one of the most ancient cities in China.

Along with 104 members, APCAP2017 TPC has worked together and generated a diverse and well-organized technical program. A high number of 762 papers were submitted to APCAP2017, where 667 papers were from mainland China, and 95 papers were from overseas distributed in 18 countries and regions. All submitted papers were reviewed by members of the TPC and on their recommendations a total number of 722 papers were accepted for presentation at APCAP2017. We have arranged 81 oral sessions and 4 poster sessions from Tuesday to Thursday to present the papers.

In this large event on antennas and propagation in the Asia-Pacific area, we have invited 3 (very top) keynote speakers to describe the latest technological developments, we have also invited 86 speakers and organized 12 special sessions to report on current related technologies. The invited talks are distributed from Tuesday to Thursday. Besides the regular papers, a high number of 177 student papers were received to take part in Best Student Paper Contest. After peer review by the TPC members, 18 papers were shortlisted to the final competition for Best Student Paper Awards.

This year, all submission, paper review and evaluation and paper acceptance process are on-line based. We are indeed proud of the excellent work done by staff of Xidian University, National University of Singapore and Southeast University. On behalf of the TPC, we would like to express our sincere thanks to all authors for their contributions to the conference. We would like to express our sincere appreciation to all TPC members, session organizers, session chairs, reviewers, and all who have been involved for their effort and dedication in finalizing this technical program.

We wish you an enjoyable and interesting APCAP 2017 in Xi'an, China.



Prof. Long Li  
APCAP TPC Chair  
Xidian Univ.



Prof. Hou Zhang  
APCAP TPC Chair  
AFEU



Prof. Zhangcheng Hao  
APCAP TPC Chair  
Southeast Univ.



Prof. Chenjiang Guo  
APCAP TPC Chair  
NPU



## **APCAP2017 Committee Officers**

### **APEM Week Co-General Chairs**

Wei Hong (Southeast University)

Baoyan Duan (Xidian University)

Dongwei Li (39<sup>th</sup> Inst.)

### **APCAP Chairs**

Zhi Ning Chen (National University of Singapore)

Yongchang Jiao (Xidian University)

Jiaqi Liu (TP&NM Lab)

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Jin Pan (University of Electronic Science and Technology of China)

Juling He (39<sup>th</sup> Inst.)

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Hou Zhang (Air Force Engineering University)

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Ying Liu (Xidian University)

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Cunxiang Wang (39<sup>th</sup> Inst.)

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Xiaoli Xi (Xi'an University of Technology)

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Zhe Song (Southeast University)

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**Webmasters**

Chao Guo (Maitekang Ltd)

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### **Best Student Paper Awards Committee**

Hisamatsu Nakano (Hosei University)

Chi Hou Chan (City University of Hong Kong)

Steven Gao (University of Kent)

Ville Viikari (Aalto University)

Xiao-Wei Zhu (Southeast University)

## **APCAP2017 TPC Members**

Amin Kianinejad (Natinonal University of Singapore)  
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Anil Kumar Pandey (Keysight Technologies)  
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Hongsheng Chen (Zhejiang University)  
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Kwai-man LUK (City University of Hong Kong)  
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 Wonbin Hong (Pohang University of Science and Technology)  
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 Xiaodong CHEN (Queen Mary University of London)  
 Xiaojie Dang (Xidian University)  
 Xiao-Wei Zhu (Southeast University)  
 Xiaoxing Yin (Southeast University)  
 Xiuping Li (Beijing University of Posts and Telecommunications)  
 Xiuyin Zhang (South China University of Technology)  
 Xueguan Liu (Soochow University)  
 Xue-Song Yang (University of Electronic Science and Technology of China)  
 Y. Jay Guo (University of Technology Sydney)  
 Yan Shi (Xidian University)  
 Yan Zhang (Southeast University)  
 Yanhui Liu (Xiamen University)  
 Yijun Feng (Nanjing University)  
 Ying Liu (Xidian University)  
 Ying-Ran He (Natinonal University of Singapore)  
 Yingzheng Yin (Xidian University)  
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Zhi Ning Chen (Natinonal University of Singapore)  
Zhongxiang Shen (Nanyang Technological University)  
Zongxin Wang (Southeast University)  
Zuping Qian (PLA University of Science and Technology)

## Conference Site and Office Location

2017 Asia-Pacific Conference on Antennas and Propagation (APCAP2017) will be held on 16<sup>th</sup> – 19<sup>th</sup> October at Shaanxi Guesthouse, Xi'an, China. The office and session locations are shown in the back cover of this program.

## Registration

The APCAP 2017 Registration begins from 14:00-18:00, October 16, 2017. The registration desk is at the conference venue Shaanxi Guesthouse. The on-site registration fee is shown in the following table. The on-site student registration requires a valid student ID. If you have pre-registered, your name badge and Technical Program will be ready for you to pick up at the registration desk during the conference. Please wear your name badge throughout the conference. Access will be prohibited to the exhibition, tea break, interactive areas, and technical sessions if a name badge is not visible.

On-site Registration Fee	
Student/Retired	2800 CNY (400 USD)
CIE/IEEE members	3800 CNY (550 USD)
Regular	4500 CNY (650 USD)

## Projection Facilities

**Standard LCD projector (connected to a local PC) will be provided in each conference room.**

## Guidelines for Presentations

### INFORMATION FOR CANDIDATES OF BEST STUDENT PAPERS CONTEST

The Best Student Paper Contest is an **Oral Session** scheduled during 2:00-5:30 pm, October 16, 2017, namely the afternoon before Opening Ceremony. Candidates are required to present their work in 5 minutes with a 5-minute Q&A. The awards committee will select the final winners according to the paper quality and the author's presentation. No show means the authors withdraw their paper from the contest.

**Note: Best student paper candidates are also required to demonstrate their posters during 15:10 – 16:00 pm, October 17, 2017.**

### INFORMATION FOR ORAL PRESENTERS

Presenters are required to report at their session room to their session chair at least 15 minutes prior to the beginning of their session. Presenters are suggested to try out their presentations if there is any concern about the format, presentation length, etc. It is mandatory that the presentations should be loaded to the computer supplied by conference ahead of the beginning of each session. Any delays in the start of a presentation behind schedule due to the presenter's disregard of this guidance will result in less presentation time for that paper. All regular presentations are limited to 20 minutes (invited presentations will have 30 minutes). The strict limits are 15 minutes for formal presentations and 5 minutes for questions and discussions. To accommodate attendees who move between sessions, it is important to carry out every presentation on schedule. The Session Chair will remind the presenter 10 minutes after the presentation starts. The session room will be equipped with a computer and an LCD projector. This is the only permissible projection system. Presenter **MUST** use the session's



computers for their presentation, i.e, their presentation must be loaded in advance on this computer. Each computer is equipped with a CD-ROM drive and a USB port to read CDs and USB flash memory, respectively. The operating system for session computers is Microsoft Windows 7 (or newer). The software available on each machines are Adobe Acrobat Reader (for PDF), MathType and Microsoft Office (Version: Office 2013) with Word, Excel and PowerPoint available. Therefore, all presenters must be compatible with these packages. There will be also assistance and advice available to presenters at registration desk. Please remember that due to the very large number of papers and a tight schedule, the responsibility of having your paper ready for presentation at the scheduled time is very important. **All oral papers must be presented in person at the conference in order to be included in the proceedings published in IEEE Xplore©.**

## **INFORMATION FOR POSTER PRESENTATIONS**

Presenters are required to put up their papers 15 minutes prior to the beginning of their session. Each poster presentation will last about 50 minutes. During this time, the presenter must stand by the display board to answer questions and discuss about the contents of the poster informally. **The poster display should include a statement of the topic, objectives of the research or project, the methodology used to solve the problem or implement the program, the major findings or outcomes and their significance and conclusions.** There should be a logical sequence ---- introduction, development and conclusion--- of your display.

Each sheet should be numbered, a heading should be prepared for your presentation using lettering at least 3cm high. The heading should include the title of the poster, all author names and institutional affiliations.

One poster board is provided for each presentation, which is **1.2 meter high by 0.9 meter wide**. The background color of the board is usually beige or white. Pins or tapes are provided by conference committee to mount your posters on the boards. All materials to be displayed should be prepared before your arrival. Supplies will not be available at the conference site. **All poster papers must be presented in person at the conference in order to be included in the proceedings published in IEEE Xplore©**

## General Information

### CONFERENCE VENUE



Shaanxi Guesthouse

Address: No.1 Zhangbabei Road, Xi'an, Shaanxi

<http://www.zhangbagou.com>

### TRANSPORTATION

#### **From Xi'an Xianyang International Airport to Conference Venue (Shaanxi Guesthouse):**

The distance between **Xi'an Xianyang International Airport** and **Shaanxi Guesthouse** is about 38.2 kilometers. You are suggested to take a taxi, the fare is 110~130 CNY for one way. If you prefer public transportation, please take airport shuttle bus to take off at Zhuhonglu station, then transfer to bus No.261 to take off at Provincial Swimming Center, then walk for about 1500 metres to the conference venue.

#### **From Xi'an Railway Station to Conference Venue (Shaanxi Guesthouse):**

The distance between **Xi'an Railway Station** and **Shaanxi Guesthouse** is about 15.7 kilometers. You are suggested to take a taxi, the fare is 40~50 CNY for one way. If you prefer public transportation, please take bus No.206 to Guanghualu Station, then transfer to bus No.608 to take off at Chazhangcun Station, then walk for about 1000 metres to the conference venue.

#### **From Xi'an North Railway Station to Conference Venue (Shaanxi Guesthouse)**

The distance between **Xi'an North Railway Station** and **Shaanxi Guesthouse** is about 26 kilometers. You are suggested to take a taxi, the fare is 70~80 CNY for one way. If you prefer public transportation, please take metro Line 2 to take off at Xiaozhai Station, then transfer to metro Line 3 to take off at Zhangbabeilu Station, then transfer to metro Hign-Tech Line 2 to take off at Chazhangcun station, walk for about 1000 metres to the conference venue.

## ABOUT XI'AN

Xi'an is the capital of Shaanxi Province. Xi'an was once called "Chang'an" in the Han Dynasty. The connotation of this name is "permanent peace". Xi'an was regarded as one of the "Four Ancient Civilizations of the World", the other three being Rome, Athens, and Istanbul.

## Tour Options



**Terra-cotta Warriors and Horses Museum** Terracotta warriors and horses is the only imperial tombs from the mass grave, located on the eastern side of Qin Shi Huang Mausoleum of about 1 kilometer and a half, was found in 1974, is one of the most important archaeological discoveries, this 16,300-square-meter excavation reveals more than 7,000 life-size terracotta figures of warriors and horses arranged in battle formations. (3 pits) The terracotta warriors and horses, created about 2,200 years ago, were found in 1974 on the east side of the

tomb of the First Emperor Qin Shihuang (259 BC - 210 BC) near Xi'an.

**Big Wild Goose Pagoda** As the symbol of the old-line Xian, Big Wild Goose Pagoda is a well-preserved ancient building and a holy place for Buddhists. It is located in the southern suburb of Xian City, about 4 kilometers (2.49 miles) from the downtown of the city. Standing in the Da Ci'en Temple complex, it attracts numerous visitors for its fame in the Buddhist religion, its simple but appealing style of construction, and its new square in front of the temple. It is rated as a National Key Cultural Relic Preserve as well as an AAAA Tourist Attraction.



## LANGUAGE

The official language for the Conference is English. However, in the public society, Chinese Mandarin is commonly spoken in Xi'an.

## VISA

Each person from abroad, who wants to enter the Chinese Customs, needs to hold a visa issued by Chinese Embassy or Consulate. It should be submitted to the Chinese Embassy in your country for you to apply for the visa. You can also apply for a visa type of common tourist, which is convenient to be issued without the requisition form and valid for 30 days.

## CURRENCY AND CREDIT CARDS

China's currency is RMB with its monetary unit RMB Yuan. The exchange rate is about 1 USD FOR 6.59 RMB. **ONLY RMB cash is acceptable on the registration desk on the conference site.**

## TAX AND TIP

All the shopping is free of tax. Be sure to make big bargaining when buy merchandise from the Street Market. Tipping is by no means a traditional Chinese custom. Please help keep the good customs and do not tip a waiter/waitress or a taxi driver and other person who provides regular services.

## OPENING HOURS

Bank and Post Office Opening hours: 9:00 a.m. to 5:00 p.m., from Monday to Sunday.

Government Office Opening hours: 8:30 a.m. to 5:00 p.m., from Monday to Friday.

Store Opening hours: 9:00 a.m. to 8:00 p.m., but the large shopping center serves till 10:00 p.m., from Monday to Sunday.

## ELECTRICITY

In China, the standard outlets provide AC of 220 V/50 Hz.

## TAXI

Usually, a taxi is available along the roadsides, while you wave for it. However, at main streets it is only available at taxi stops or in front of a hotel.

## INTERNET ACCESS

There are WLAN with internet access in the conference venue.

## **APCAP2017 Online**

Information on APCAP2017 has been posted on the World Wide Web at:

<http://www.em-conf.com/apcap2017>

# Keynote Presentations

Oct. 17 (TUE), Room O

10:00 – 10:40

深空探测发展展望与思考

张荣桥

中国首次火星探测工程总设计师，深空探测论证总设计师

## Abstract of the talk

简要介绍中国深空探测的发展目标、遵循原则、能力基础、实施路线、任务安排和重点关注的科学问题，重点阐述中国开展深空探测需要克服的工程和技术难题，以及对中国深空探测任务设计和工程技术发展的观点。

## Biography of the speaker



张荣桥：曾任我国月球探测工程副总设计师；现任我国首次火星探测工程总设计师、深空探测论证总设计师。

## **Deep Multiscale, Characteristic Mode, Computational Imaging, and Quantum Effects Problems**

W.C. Chew

School of Electrical and Computer Engineering  
Purdue University, West Lafayette, IN, USA

### **Abstract of the talk**

Maxwell's equations have been around for over 150 years since its inception. But due to their enduring legacy, their importance has not diminished over the years. In fact, electromagnetic theory finds applications in increasing number of areas and relationship to deeper mathematics. For instance, electromagnetics is important for quantum information, quantum optics, and increasingly being used in photonic and bio technologies.

In this talk, we will report our progress in several frontiers related to electromagnetics.

1. Deeply multi-scale analysis of complex structures

Deeply multi-scale problems are omnipresent where the smallest features can be many orders of magnitude smaller than the largest features.

2. Physics-based characteristic mode analysis

Because of the popular use of commercial software to solve problems, many antenna designers arrive at designs without much physical guidance nor insight. Hence, ways to enhance physical insight and understanding of wave physics and electromagnetics are needed. Hence, analysis such as characteristic mode analysis could be of greater importance in future designs and applications. They will make the antenna analysis more physics based rather than by trial and error.

3. Computational imaging

The leaps and bounds progress in computer technology warrants one to look at the inverse scattering and imaging problem differently. With 10 million times improvement in speed and reduction in cost, different computational paradigms need to be explored. This can occur in multiple scattering imaging where the prowess of modern computer technology can be harnessed to improving imaging technology, just as what machine learning has done.

4. Quantum effects in future technologies

As device dimensions become smaller, operating electromagnetic frequencies become higher, and measurement sensitivities improve, the quantization of electromagnetic field becomes increasingly important. This ushers in the age of quantum technologies.



## Biography of the speaker



Weng Cho Chew received all his degrees from MIT, between 1973-1980. He worked at Schlumberger-Doll Research between 1981-1985 where he was program leader and department manager, and then joined U of Illinois. He was Dean of Engineering, Hong Kong U, 2007-2011. Before, he was Director, Electromagnetics Laboratory, UIUC, 1995-2007, Founder Professor of Engineering, 2000-2005, YT Lo Chair Professor, 2005-2009, then Distinguished Professor, 2013-2017. He has published over 1,000 journal and conference papers, an ISI highly cited author, a fellow of IEEE, OSA, IOP, EM Academy, HKIE, and winner of IEEE Grad Teaching Award, Electromagnetics Award, CT Tai Distinguished Educator Award, best paper awards, IBM, and ACES CEM awards. He is Editor-in-Chief of PIER. He has both industry and academic experience. He was recently elected to NAE, and President Elect of AP-S.

His research interests are in wave physics and mathematics of inhomogeneous media, as well as fast algorithms for scattering and radiation problems. He originated several fast algorithms for electromagnetics scattering and multiple-scattering inverse problems. His research group solved dense matrices for scattering problems with tens of millions of unknowns first time ever. His recent interest is in multi-physics phenomena including quantum effects. He has published many papers and books.

**11:20 – 12:00**

## **EMC for Emerging Technologies**

**James Drewniak, IEEE Fellow  
Missouri University of S&T, USA**

### **Abstract of the talk**

Increasing data rates and design densities together with new enabling technologies present new challenges and necessitate new approaches in EMI design and mitigation, in order to meet design specifications, cost pressures, and regulatory requirements. This presentation will highlight several trends in EMI research with examples in the fields of above 10 GHz emissions, intra-system EMI, radio-frequency interference, noise source identification and modeling, mitigation techniques with new materials, tools, and design methodologies.

### **Biography of the speaker**



James L. Drewniak, Fellow of IEEE, received B.S., M.S., and Ph.D. degrees in electrical engineering from the University of Illinois at Urbana-Champaign. He is currently professor with the Electromagnetic Compatibility Laboratory at Missouri S&T, in the Department of Electrical and Computer Engineering. His research is in electromagnetic compatibility, signal and power integrity, and electronic packaging.

**2017-10-16 PM**

**Room S**

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**ORAL Session: MP1S**  
**Best Student Papers Contest**

Session Chair: Hisamatsu Nakano

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- 14:00 - 14:10 Multi-layer Stacked 3D UHF-band Miniaturized Frequency Selective Structure  
*Tianhao He, Weiming Li, Wu Ren, Zhenghui Xue* (China, Mainland)
- 14:10 - 14:20 Design of a Multilayer FSS Transmission High-gain Antenna Array and Analysis of the Beam Control  
*Tianliang Zhang, Long Li, Rui Xi* (China, Mainland)
- 14:20 - 14:30 AMC-based High-isolation SIW Slot Array Antennas for Ka-band SAR Systems  
*Yuanyan Su, Zhining Chen* (Singapore)
- 14:30 - 14:40 Circularly Polarized Cross-slot Antenna Array Fed by Substrate Integrated Waveguide  
*YuFeng Yin, Min Wang, Na Wu, Wen Wu* (China, Mainland)
- 14:40 - 14:50 Modified Silicon Micromachining Process with Air Cavities and Silicon-to-air Transitions for Low-loss Millimeter-wave Antenna Tape-out  
*Peiqin Liu, Yue Li, Zhijun Zhang, Zhenghe Feng* (China, Mainland)
- 14:50 - 15:00 Wideband SIW Horn Antenna Loaded with Offset Double-Sided Parallel-Strip Lines  
*Yufan Cao, Yingsong Zhang, Yang Cai, Zuping Qian* (China, Mainland)
- 15:00 - 15:10 Design of A Low Profile Wideband Circularly Polarized Magnetic-Electric Dipole Antenna Array  
*Wen Tian, Mang He, Xiaowen Xu, Chuanfang Zhang* (China, Mainland)
- 15:10 - 15:20 Composite Right/Left-Handed Antenna Based on Triangle Substrate Integrated Waveguide Cavity  
*Wenjian Chen, Feng Xu, Jian Yang, Siyuan Yao* (China, Mainland)
- 15:20 - 15:30 Low-profile Bilayer Metasurface Integrated Antenna for Cellular Base Stations  
*Srien Sithara Syed Nasser, Zhining Chen* (Singapore)

**2017-10-16 PM**

**Room S**

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**ORAL Session: MP2S**  
**Best Student Papers Contest**

Session Chair: Hisamatsu Nakano

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- 16:00 - 16:10 Quantitative Characteristic Mode Far-Field Relations in Analyzing Unidirectional High-Directive ESAs  
*Ruiyang Li, Gao Wei* (China, Mainland)
- 16:10 - 16:20 Leaky-Wave Radiation from Periodically Modulated Spoof Surface Plasmon Polaritons  
*Zhixia Xu, Xin Zhang, Shunli Li, Hongxin Zhao, Xiaoxing Yin* (China, Mainland)
- 16:20 - 16:30 A Radiation Pattern Reconfigurable Yagi Antenna  
*Binglong Zheng, Guanghua Sun, Shiyan Zhou, Saiwai Wong* (China, Mainland)
- 16:30 - 16:40 A Simple Printed MIMO Antenna Pair with High Isolation Performance  
*Ziyang Wang, Luyu Zhao, Yuanming Cai, Yingzeng Yin* (China, Mainland)
- 16:40 - 16:50 Generating the Dual-mode Vortex Electromagnetic Wave by Designing and Analysing of Dual-band Antenna Array  
*Peng Xu, Cheng Zhu, Changhong Liang* (China, Mainland)
- 16:50 - 16:50 Through-the-wall Imaging Based on Modified Compressive Sampling Matching Pursuit  
*Yuteng Gao, Wencan Peng, Yan Qu, Jun Ding* (China, Mainland)
- 16:50 - 17:00 Monitoring Blood Glucose Fluctuation using SIW Cavity with a Coupling Slot  
*Kaidi Xie, Louis WY LIU, Qingfeng Zhang, Qingsha Cheng* (China, Mainland)
- 17:00 - 17:10 A Low-RCS and High-Gain Partially Reflecting Surface Antenna based on Coding Metasurface  
*Lei Zhang, Hao Tian Wu, Tiejun Cui* (China, Mainland)
- 17:10 - 17:20 Tunable Spoof Localized Surface Plasmons on Dual Corrugated Disks  
*Liu Yang, Yongjin Zhou, Qianxun Xiao, Chao Zhang* (China, Mainland)

**2017-10-17 PM**

Room A

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**ORAL Session: TP1A**

**Special Session: Challenges on Wireless Performance Testing for 5G/mmWave/Beamforming/WiFi/Massive MIMO/Driverless Car -**

**Organizer: WU XINGFENG**

Session Chairs: WU XINGFENG and Guangyi Liu

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- 13:30 - 13:50 The Recent Advance of ITU-R IMT-2020 Channel Model  
*Jianhua Zhang* (China, Mainland)
- 13:50 - 14:10 Recent Advances on OTA Testing for 5G Antenna Systems in Multi-probe Anechoic Chamber Setups  
*Wei Fan, Gert FrølundPedersen, Pekka Kyösti, Aki Hekkala, Tommi Jämsä, Mattias Gustafsson* (Denmark)
- 14:10 - 14:30 Analysis of the Test Zone by Throughput in the Multi-Probe Anechoic Chamber system  
*Xianhui Liu, Bo Lu, Zheng Liu, Huaizhi Yang, Jin Wang, Wei Li, Xun Dai* (China, Mainland)
- 14:30 - 14:50 5G Antenna System OTA Testing with Plane Wave Generator in Range-constrained Anechoic Chamber  
*Xiaohui Zhang, Zhihua Zhang, Yajuan Ma* (China, Mainland)
- 14:50 - 15:10 Performance Evaluation of Sectorized MPAC for 5G UE Antenna Systems  
*Aki Hekkala, Pekka Kyösti, Jukka Kyröläinen, Lassi Hentilä, Wei Fan* (Finland)
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**ORAL Session: TP2A**

**Special Session: Challenges on Wireless Performance Testing for 5G/mmWave/Beamforming/WiFi/Massive MIMO/Driverless Car -**

**Organizer: WU XINGFENG**

Session Chairs: WU XINGFENG and Guangyi Liu

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- 16:00 - 16:20 Challenges and opportunities on intelligent vehicle tests in anechoic chamber  
*Jianmei Lei, Yang Xu, Tian Tian, Rui Chen, Min Chen, Jin Jia* (China, Mainland)
- 16:20 - 16:40 Emulating a Moving Cluster in a Massive MIMO OTA Test Scenario  
*Doug Reed, Alfonso Rodriguez-Herrera* (United States)
- 16:40 - 17:00 Data-driven Wireless Calibration and Testing  
*Zhi Quan* (China, Mainland)
- 17:00 - 17:20 Challenges on wireless performance testing for 5G Massive MIMO  
*Guangyi Liu, Yi Zheng, Yan Li* (China, Mainland)

**2017-10-17 PM**

**Room B**

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**ORAL Session: TP1B**

**Antennas**

Session Chairs: Hiroyuki Arai and Bin Li

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- 13:30 - 14:00 Slant 45° Polarized Multi-Frequency Cylindrical Slot-Dipole Antenna (**invited**)  
*Hiroyuki Arai, Bakar Rohani, Ryosuke Kaneda* (Japan)
- 14:00 - 14:20 Broad-Angle Beam Scanning SIW Leaky-Wave Slotted Antenna  
*Du-Juan Wei, Jian-Ying Li, Rui Xu, Jiang-Jun Yang, Yang-Xiao Qi* (China, Mainland)
- 14:20 - 14:40 Planar End-Fire Circularly Polarized Antenna With Wide Bandwidth  
*Xinmeng Lv, Weiping Ding, Wenquan Cao, Zhiyuan Zeng* (China, Mainland)
- 14:40 - 15:00 A Wideband Tri-Polarized Antenna at 2.4 GHz for Array Application  
*Zhi-Peng Liu, Ruo-Fan Li, Bin Li, Yong Liu, Xin Lv* (China, Mainland)
- 15:00 - 15:20 Leaky Coaxial Cable for Near-field UHF RFID Applications  
*Jinjun Jiang, Lu Wang, Gang Wang* (China, Mainland)
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**ORAL Session: TP2B**

**Antennas**

Session Chairs: Anil Kumar Pandey and Xiaodong Chen

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- 16:00 - 16:30 5G Communication and Phase Array Antenna Design (**invited**)  
*Anil Kumar Pandey* (India)
- 16:30 - 16:50 Study of Frequency-Alterable Microstrip Antenna Based on Temperature Sensing Material  
*Penghui Fu, Yuan Yao, Xiaoming Liu, Limei Qi, Zhijiao Chen, Junsheng Yu, Xiaodong Chen* (China, Mainland)
- 16:50 - 17:10 Miniaturization Microstrip Antenna Design based on Artificial Electromagnetic Structure  
*Qian Wang, Ning Mu, Linli Wang, Jingping Liu, Ying Wang* (China, Mainland)
- 17:10 - 17:30 UHF RFID Tag Antenna Design for Far-distance Application and Large-scale Manufacture  
*Huijun Chen, Hongwei Shen* (China, Mainland)
- 17:30 - 17:50 Analysis of Reflector Surface Distortions by Computer Simulation  
*Junhao Shen, Zhang Ye* (China, Mainland)

**2017-10-17 PM**

**Room C**

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**ORAL Session: TP1C**

**Antennas**

Session Chairs: Shaoqiu Xiao and Xiuping Li

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- 13:30 - 14:00 Wideband Wide Angle Electronically scanned array Antenna **(invited)**  
*Shaoqiu Xiao, Zhiguo Jiang, Yan Li, Chunmei Liu, Bing-Zhong Wang* (China, Mainland)
- 14:00 - 14:20 Research on Reflective Circular Polarization Antenna Based on Electromagnetic Control  
*Yongguang Zhou, Miquan LI, Xu Pan, Chunchun Shen, Shandong Wang, Xuanxuan Li* (China, Mainland)
- 14:20 - 14:40 High-gain substrate integrated cavity antenna for W-band applications  
*Xiao-Chuan Wang, Chen-Wu Yu, Xian-Long Lu, De-Chao Qin* (China, Mainland)
- 14:40 - 15:00 Compact Magneto-Electric Dipole Antenna With Low-Profile for LTE Femtocell Base Stations  
*Yanyang Liu, Miquan Li, Yu Zhang, Yingbo Wu, Xiaopan Xia* (China, Mainland)
- 15:00 - 15:20 A 16-bit Chipless RFID Tag with Quasi-Complementary Structure  
*Jia Song, Xiuping Li, Hua Zhu* (China, Mainland)
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**ORAL Session: TP2C**

**Antennas**

Session Chairs: Zuping Qian and Wen Wu

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- 16:00 - 16:30 Design of High Performance Substrate Integrated Waveguide Horn Antennas **(invited)**  
*Zuping Qian* (China, Mainland)
- 16:30 - 16:50 Wide-Beam Circularly Polarized Microstrip Antenna with high Front-to-Back Ratio for CNSS Application  
*Yuan Yuan, Min Wang, Yufeng Yin, Wen Wu* (China, Mainland)
- 16:50 - 17:10 A Novel Dual-Band Resonator Antenna Loaded with Three Dielectric Slabs  
*Gao-Peng Zhong, Yin-Hua Yu, Zhi-Yuan Zong, Wen Wu, Da-Gang Fang* (China, Mainland)
- 17:10 - 17:30 An Electronically Controlled CRLH Transmission-Line Leaky-Wave Antenna  
*Jiaxin Feng, Shaoqiu Xiao, Jiabo Liu* (China, Mainland)
- 17:30 - 17:50 A Compact Wideband Filtering Quasi-Yagi Antenna  
*Hang Yin, Min Wang, Jianpeng Wang, Wen Wu* (China, Mainland)



**2017-10-17 PM**

Room D

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**ORAL Session: TP1D**

**Antennas**

Session Chairs: Hanyang Wang and Yingsong Li

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- 13:30 - 14:00 Overview of Characteristic Mode Analysis in Antenna Design of Mobile Terminals  
(**invited**)  
*Hanyang Wang* (United Kingdom)
- 14:00 - 14:20 A Ku-band Groove Gap Waveguide Antenna based on Taylor Line Source Method  
*Xingchao Dong, Hongjian Wang, Fei Xue, Yang Liu* (China, Mainland)
- 14:20 - 14:40 A Single-Probe Feed Slot Antenna with High-Gain and Low Sidelobe Property  
*Wenfeng Peng, Wenquan Cao, Zuping Qian* (China, Mainland)
- 14:40 - 15:00 Compact Triplex Microstrip Slot Antenna Based on Triple Feeding Types  
*Yanghui Tong, Zuping Qian, Wenquan Cao* (China, Mainland)
- 15:00 - 15:20 Leaky-Wave Antenna with Slots on Substrate Integrated Non-Radiative Dielectric Waveguide  
*Pengfei Kou, Yujian Cheng* (China, Mainland)
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**ORAL Session: TP2D**

**Antennas**

Session Chairs: Naoki Shinohara and Yi Huang

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- 16:00 - 16:30 Antenna Absorption Efficiency and Beam Efficiency of a Microwave Power Transmission System (**invited**)  
*Naoki Shinohara, Yu Tsukamoto* (Japan)
- 16:30 - 16:50 Tapered Slot Antenna Array for 5G Wireless Communication Systems  
*Pengfei Liu, Xiaowei Zhu, Hongjun Tang, Xiang Wang, Wei Hong* (China, Mainland)
- 16:50 - 17:10 Seawater Electromagnetic Propagation Between Two Folded-Dipoles at ISM-Band  
*Chunbo Wu, Bingxin Liu* (China, Mainland)
- 17:10 - 17:30 Miniaturized Circularly Polarized Antenna by the Spiral Slots on the ground plane  
*Songtao Yu, Haobin Zhang, Dan Yu* (China, Mainland)
- 17:30 - 17:50 Design of Four Aperture Non-uniform Coverage Multi-beam Antenna in Ka-band  
*Wenxi Ye, Xiao Tao, Jixiang Wan, Wei Ding* (China, Mainland)

**2017-10-17 PM**

Room E

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**ORAL Session: TP1E**

**Antennas**

Session Chairs: QingXin Chu and Tao Yuan

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- 13:30 - 14:00 Design of a low-profile base-station antenna (**invited**)  
*Wei Shi, Qing-Xin Chu* (China, Mainland)
- 14:00 - 14:20 A Compact Planar Antenna Designed for All-Metal-Shell Handset Application  
*Chong-Zhi Han, Guan-Long Huang, Mo-Lin Fan, Tao Yuan* (China, Mainland)
- 14:20 - 14:40 Design of A New Metal-Only Reflectarray Using Square Loop and Spiral Structure  
*Yang Liu, Hongjian Wang, Guang Liu, Xingchao Dong* (China, Mainland)
- 14:40 - 15:00 Design of A Transparent Reflectarray Integrated with Solar Cells Using Quad-Key Element  
*Yang Liu, Hongjian Wang, Guang Liu, Xingchao Dong* (China, Mainland)
- 15:00 - 15:20 Single Probe-Fed Dual-Band Dual-Circularly Polarized Antenna for Satellite Applications  
*Jun Wang, Ruofan Li, Kang An, Xianghui Wang, Jun Zheng, Shaojun Wang* (China, Mainland)
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**ORAL Session: TP2E**

**Antennas**

Session Chairs: Wen-Jun Lu and Shi-Wei Qu

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- 16:00 - 16:30 Conceptual Design of Planar Endfire Circularly Polarized Antenna with Enhanced Directivity (**invited**)  
*Kang Wang, Wen-Jun Lu* (China, Mainland)
- 16:30 - 16:50 A Low-Profile Wideband Phased Array Antenna with Parasitic Element for Wide Angle Scanning  
*Ya-Ru Wang, Shi-Wei Qu* (China, Mainland)
- 16:50 - 17:10 Bandwidth-Enhanced of a Very Simple Circularly Polarized Square Slot Antenna with Offset Feed and Modified Ground Plane  
*Jie Liu, Jian-Ying Li, Rui Xu, Du-Juan Wei* (China, Mainland)
- 17:10 - 17:30 Design and Analysis of a Compact CPW-Fed UWB Antenna with Quadruple Notched Bands  
*Zeng-Pei Zhong, Qing-Fa Zeng, Chong-Zhi Han, Mo-Lin Fan, Guan-Long Huang, Tao Yuan* (China, Mainland)
- 17:30 - 17:50 Design of a Compact CPW-Fed Monopole Antenna with Multiple Band-Notched Characteristics for UWB Applications  
*Qing-Fa Zeng, Zeng-Pei Zhong, Chong-Zhi Han, Mo-Lin Fan, Guan-Long Huang, Tao Yuan* (China, Mainland)

**2017-10-17 PM**

Room F

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**ORAL Session: TP1F**

**Special Session: Special Session on Women in Antenna - Organizer:  
Ying Liu**

Session Chairs: Ying Liu and Qiaowei Yuan

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- 13:30 - 14:00 Wideband RCS Reduction Using Two Dimensional Phase Gradient Metasurface  
(**invited**)  
*Wenbo Zhang, Ying Liu, Shuxi Gong* (China, Mainland)
- 14:00 - 14:30 Effect of mutual coupling between array elements on self-interference suppression of MIMO Full-Duplex system (**invited**)  
*Qiaowei Yuan, Qiang Chen, Naoki Honma, Nobuyasu Takemura* (Japan)
- 14:30 - 14:50 A Dual-Band and Dual-Polarization Antenna with Two Nested Triangular Rings  
*Linli Jiang, Chunlan Lu, Wenquan Cao, Changsong Wu, Feng Yuan* (China, Mainland)
- 14:50 - 15:10 A wideband multifunctional metasurface for antenna application  
*Wei Chen, Jun Gao, Xiangyu Cao, Sijia Li, Zhao Zhang* (China, Mainland)
- 15:10 - 15:30 Frequency Reconfigurable Bow-Tie Antenna with Artificial Magnetic Conductor Loading  
*Tong Li, Xiangyu Cao, Qi Li, Jun Gao, Huanhuan Yang* (China, Mainland)
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**ORAL Session: TP2F**

**Special Session: Special Session on Women in Antenna - Organizer:  
Ying Liu**

Session Chairs: Ying Liu and Basabi Chakraborty

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- 16:00 - 16:30 IEEE Women in Engineering Affinity Group activities in Japan (**invited**)  
*Basabi Chakraborty* (Japan)
- 16:30 - 17:00 Topology Optimization of Patch Antennas with Specified Polarization and Beam Characteristics (**invited**)  
*Xue-Song Yang, Jian Wang, Bing-Zhong Wang* (China, Mainland)
- 17:00 - 17:20 Research on Statistical Characteristics for the part-shadowing channel Model  
*Wenping Ren, Fuhua An, Dongya Shen, Bowen Liu, Xianghui Shan* (China, Mainland)
- 17:20 - 17:40 Design of an On-Body Matched Wide-Slot UWB Antenna for Brain Activities Detection  
*Chaoji Zheng, Xing Jiang, Bo Kang, Xiaoming Li, Zhe Geng* (China, Mainland)

**2017-10-17 PM**

Room G

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**ORAL Session: TP1G**

**Antennas**

Session Chairs: Wonbin Hong and Yanhui Liu

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- 13:30 - 14:00 Coexistence Issues concerning 4G and mmWave 5G Antennas for Mobile Terminals **(invited)**  
*Yeonwoo Kim, Wonbin Hong* (South Korea)
- 14:00 - 14:20 Dual-Frequency SIW Cavity-Backed Slot Antenna Using Two High-Order Modes  
*Kaida Xu, Wenxun Li, Yanhui Liu* (China, Mainland)
- 14:20 - 14:40 Generation of Plane Spiral Orbital Angular Momentum Microwave with Ring Dielectric Resonator Antenna  
*Ruofan Dong, Yiling Chen, Shilie Zheng, Xianbin Yu, Xiaofeng Jin, Hao Chi, Xianmin Zhang* (China, Mainland)
- 14:40 - 15:00 A Low PIM frequency and Polarization multiplexing Ku-Band Feed Chains for Satellite Antennas  
*Qiaoshan Zhang, Jingang Gong, Zhi Xu, Yuhua Li, Mingtao Zhang, QIngli Lv, Lei Zhang* (China, Mainland)
- 15:00 - 15:20 Planar Slot Antenna Based on Triangle Corrugated Substrate Integrated Waveguide Cavity  
*Siyuan Yao, Feng Xu, Jian Yang, Lewei Cao* (China, Mainland)
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**ORAL Session: TP2G**

**Antennas**

Session Chairs: Kunio Sawaya and Zhaoneng Jiang

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- 16:00 - 16:30 RFID Tag Antennas for Closely Located Dielectric Objects **(invited)**  
*Kuan-Hua Chen, Kunio Sawaya, Qiang Chen* (Japan)
- 16:30 - 16:50 Wideband Antenna Design and SAR Comparison for Electronic Capsule Endoscopy  
*Lulu Cai, Ze Yang, Mengjun Wang, Hongxing Zheng, Xia Wang, Jianfei Liu* (China, Mainland)
- 16:50 - 17:10 Novel Design of Dual-frequency Microstrip Antenna  
*Mingyue Shui, Zhaoneng Jiang* (China, Mainland)
- 17:10 - 17:30 Analysis and Design of Novel UWB Cross-shaped Microstrip Antenna  
*Qingchun Zhang, Zhaoneng Jiang* (China, Mainland)
- 17:30 - 17:50 Chipless UWB-RFID Tag with Spectral and Temporal Joint Signatures  
*Jian Liu* (China, Mainland)

**2017-10-17 PM**

Room H

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**ORAL Session: TP1H**

**Antennas**

Session Chairs: Chang-Fa Yang and Qingfeng Zhang

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- 13:30 - 14:00 Antenna and High Speed Connector Designs for 5G and High Speed Communications  
(**invited**)  
*Chang-Fa Yang, An-Yao Hsiao, Hsin-Fu Li, Hung-Wei Hsu* (Taiwan)
- 14:00 - 14:20 Design and analysis of 3D circular waveguide frequency selective structure  
*Tianhao He, Weiming Li, Wu Ren, Zhenghui Xue* (China, Mainland)
- 14:20 - 14:40 Mode analysis of Inverted V-Shaped Microstrip Leaky Wave Antenna  
*Abhishek Kandwal, Qingfeng Zhang, Yifan Chen, Xiaolan Tang, Ranjan Das, Tongfeng Guo* (China, Mainland)
- 14:40 - 15:00 Differentially Fed Slot Antenna with Dual Band and Wide-Beam Radiation Pattern  
*Jiajia Guo, Shaoqiu Xiao, Shaowei Liao, Quan Xue* (China, Mainland)
- 15:00 - 15:20 High Scanning-Rate Periodic Leak-Wave Antennas using Complementary Microstrip-Slotline Stubs  
*Jianwen Chen, Qingfeng Zhang* (China, Mainland)
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**ORAL Session: TP2H**

**Antennas**

Session Chairs: Mingchun Tang and Wen-Shan Chen

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- 16:00 - 16:20 Design of wearable antenna with compact artificial magnetic conductor reflecting plate  
*Yan-Ning Yuan, Jiao-Jie Feng, Xiao-Li Xi* (China, Mainland)
- 16:20 - 16:40 A Compact Tri-band Antenna for GPS and GSM Applications  
*Yaning Wang, Ying Li, Qi Zhu* (China, Mainland)
- 16:40 - 17:00 A Simple Tunable Monopole Antenna with Sharp Controlled Notched Bands  
*Zhen -Long Liu, Changjun Liu* (China, Mainland)
- 17:00 - 17:20 A Compact Printed Narrow-slot UWB Antenna for Communications  
*Zhaoneng Jiang, Junguang Huang, Zheng Fang, Bangbang Zhang, Xiaochi Lu, Qingchun Zhang* (China, Mainland)
- 17:20 - 17:40 Wideband Dual-Polarized Microstrip Antenna Array with High-Isolation and Low Cross- Polarization  
*Wenjie Zhang, Mang He, Xiaowen Xu, Chuanfang Zhang* (China, Mainland)

**2017-10-17 PM**

Room I

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**ORAL Session: TP1I**

**Special Session: EM and antennas education and research: session in honor of Prof. Wen-Xun Zhang on his 80th birthday**

Session Chairs: Wei Hong and Zhining Chen

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- 13:30 - 14:00 From Fresnel Zone Antennas to Reflectarrays (**invited**)  
*Yingjie Jay Guo* (Australia)
- 14:00 - 14:30 Wireless Energy Harvesting from Hz to GHz (**invited**)  
*Yi Huang, Chaoyun Song, Sheng Yuan, Jiafeng Zhou, Paul Carter* (United Kingdom)
- 14:30 - 15:00 Progresses in Time-Domain Electromagnetic Modeling (**invited**)  
*Zhizhang Chen, Huapeng Zhao, Jinyan Li* (Canada)
- 15:00 - 15:30 Direction finding using time modulated array (**invited**)  
*Ronghong Jin, Jingfeng Chen, Chong He, Xianling Liang, Weiren Zhu, Junping Geng* (China, Mainland)
- 15:30 - 16:00 The development in switchable FSS radomes (**invited**)  
*Qiang Zhang* (China, Mainland)
- 16:00 - 16:30 Millimeter-Wave and Terahertz Antennas: From PCB to Silicon (**invited**)  
*Sanming Hu, Wenbin Dou* (China, Mainland)
- 16:30 - 16:50 A Chipless RFID Unit Based on Interference for Tag Location  
*Nuanfeng Zhang, Xiongying Liu, Tianhai Chang* (China, Mainland)
- 16:50 - 17:10 Design of Inline Sixth Order Single-layered SIW Filter with Cross Couplings Based on Meandering Electric Coupling Structure  
*Changjiang You, Zhining Chen, Xiaowei Zhu* (China, Mainland)

**2017-10-17 PM**

Room J

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**ORAL Session: TP2J (Joint Session)**  
**Signal Integrity and Power Integrity**

Session Chair: Jinliang He

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- 16:00 - 16:20 Mysterious Discharging Phenomenon and Mechanism of Grounding Devices under Lightning (**invited**)  
*Jinliang He* (China, Mainland)
- 16:20 - 16:40 An Data Pattern Optimized Method for Simultaneous Switching Noise Suppression and Good Signal Integrity in High Speed System Design  
*Tonghao Ding, Baoshu Xu, Guangchao Fu, Xu Yan* (China, Mainland)
- 16:40 - 17:00 Influence of Package Parasitic Inductance on Transient Current Distribution Characteristics of Press Pack IGBT  
*Shenyang Mo, Zhibin Zhao, Peng Sun, Ying Lu, Xinling Tang* (China, Mainland)
- 17:00 - 17:20 A Compact Common-Mode Suppression Filter for Differential Signal Transmission with Slow-Wave Structure  
*Wanli Jiang, Min Tang, Junfa Mao* (China, Mainland)
- 17:20 - 17:40 Accurate and Efficient analysis of Power and Ground Planes based on WLP-FDTD  
*Wei Sun, Xiaochun Li, Junfa Mao* (China, Mainland)



**2017-10-17 PM**

Room K

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**ORAL Session: TP2K (Joint Session)**

**Wireless Communication EMC**

Session Chairs: Hong-Xing Zheng

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- 16:00 - 16:20 Millimeter-Wave Dielectric Resonator Antenna Proximity-Coupled with a Microstrip Patch (**invited**)  
*Hong-Xing Zheng, Mengjun Wang, Jianhui Bao, Erping Li* (China, Mainland)
- 16:20 - 16:40 A New Design of Shuttle-type Circular Polarized Dipole Antenna  
*Bangbang Zhang, Zhaoneng Jiang, Wendi Sun, Xiaochi Lu, Xinwen Cao, Jiaxun Lv* (China, Mainland)
- 16:40 - 17:00 Design and Analysis of Microstrip Quasi-Yagi Antenna  
*Wendi Sun, Zhaoneng Jiang, Yekui Zhong, Bangbang Zhang* (China, Mainland)
- 17:00 - 17:20 Design of New Dual - band Left - handed Material Based on Mirror "Giant" Shape  
*Xuanxuan Li, Minquan Li, Chunchun Shen, Xu Pan, Shandong Wang, Yongguang Zhou* (China, Mainland)
- 17:20 - 17:40 Design and Simulation of Left - handed Material Structure Based on Regular Hexagonal Metal  
*Chunchun Shen, Minquan Li, Xuanxuan Li, Yongguang Zhou, Shandong Wang, Xu Pan* (China, Mainland)

15:10 - 16:00

POSTER Session: TP - C

## Poster Session: TP - C (Best Student Papers Contest)

- P.1 Multi-layer Stacked 3D UHF-band Miniaturized Frequency Selective Structure  
*Tianhao He, Weiming Li, Wu Ren, Zhenghui Xue* (China, Mainland)
- P.2 Design of a Multilayer FSS Transmission High-gain Antenna Array and Analysis of the Beam Control  
*Tianliang Zhang, Long Li, Rui Xi* (China, Mainland)
- P.3 AMC-based High-isolation SIW Slot Array Antennas for Ka-band SAR Systems  
*Yuanyan Su, Zhining Chen* (Singapore)
- P.4 Circularly Polarized Cross-slot Antenna Array Fed by Substrate Integrated Waveguide  
*YuFeng Yin, Min Wang, Na Wu, Wen Wu* (China, Mainland)
- P.5 Modified Silicon Micromachining Process with Air Cavities and Silicon-to-air Transitions for Low-loss Millimeter-wave Antenna Tape-out  
*Peiqin Liu, Yue Li, Zhijun Zhang, Zhenghe Feng* (China, Mainland)
- P.6 Wideband SIW Horn Antenna Loaded with Offset Double-Sided Parallel-Strip Lines  
*Yufan Cao, Yingsong Zhang, Yang Cai, Zuping Qian* (China, Mainland)
- P.7 Design of A Low Profile Wideband Circularly Polarized Magnetic-Electric Dipole Antenna Array  
*Wen Tian, Mang He, Xiaowen Xu, Chuanfang Zhang* (China, Mainland)
- P.8 Composite Right/Left-Handed Antenna Based on Triangle Substrate Integrated Waveguide Cavity  
*Wenjian Chen, Feng Xu, Jian Yang, Siyuan Yao* (China, Mainland)
- P.9 Low-profile Bilayer Metasurface Integrated Antenna for Cellular Base Stations  
*Srien Sithara Syed Nasser, Zhining Chen* (Singapore)
- P.10 Quantitative Characteristic Mode Far-Field Relations in Analyzing Unidirectional High-Directive ESAs  
*Ruiyang Li, Gao Wei* (China, Mainland)
- P.11 Leaky-Wave Radiation from Periodically Modulated Spoof Surface Plasmon Polaritons  
*Zhixia Xu, Xin Zhang, Shunli Li, Hongxin Zhao, Xiaoxing Yin* (China, Mainland)
- P.12 A Radiation Pattern Reconfigurable Yagi Antenna  
*Binglong Zheng, Guanghua Sun, Shiyao Zhou, Saiwai Wong* (China, Mainland)
- P.13 A Simple Printed MIMO Antenna Pair with High Isolation Performance  
*Ziyang Wang, Luyu Zhao, Yuanming Cai, Yingzeng Yin* (China, Mainland)
- P.14 Generating the Dual-mode Vortex Electromagnetic Wave by Designing and Analysing of Dual-band Antenna Array  
*Peng Xu, Cheng Zhu, Changhong Liang* (China, Mainland)
- P.15 Through-the-wall Imaging Based on Modified Compressive Sampling Matching Pursuit  
*Yuteng Gao, Wencan Peng, Yan Qu, Jun Ding* (China, Mainland)
- P.16 Monitoring Blood Glucose Fluctuation using SIW Cavity with a Coupling Slot  
*Kaidi Xie, Louis WY LIU, Qingfeng Zhang, Qingsha Cheng* (China, Mainland)
- P.17 A Low-RCS and High-Gain Partially Reflecting Surface Antenna based on Coding Metasurface  
*Lei Zhang, Hao Tian Wu, Tiejun Cui* (China, Mainland)
- P.18 Tunable Spoof Localized Surface Plasmons on Dual Corrugated Disks  
*Liu Yang, Yongjin Zhou, Qianxun Xiao, Chao Zhang* (China, Mainland)

- P.19 The Design Of Five Band Microstrip Antenna  
*Lu Tian, Zhenghui Xue, Weiming Li, Wu Ren* (China, Mainland)
- P.20 Design of a Compact Dual-Band UHF Antenna for PAP Helicopter Emergency Rescue Communication System  
*Danqing Wang, Ping Li* (China, Mainland)
- P.21 Design of 0.14 THz Lens Integrated On-Chip Antenna with Defected Ground Structure  
*Xiong Xiao, Dalu Guo, Haidong Qiao, Xin Lv, Weihua Yu* (China, Mainland)
- P.22 Design of A Dual Beam Microstrip Antenna for Future 5G Communication Networks  
*Jingyu Tan, Shuxi Gong, Wen Jiang* (China, Mainland)
- P.23 A Flexible Anti-metal RFID Tag Antenna  
*Yuanyaun Wang, Jun Ouyang, Guibin Wu* (China, Mainland)
- P.24 Design of High Gain Reflectarray Antenna for 77GHz Applications  
*Mustafa K. Taher Al-Nuaimi, Wei Hong, Abdelhady Mahmoud* (China, Mainland)
- P.25 Bandwidth Improvement for Low-Profile Horizontal Omnidirectional SIW Horn Antenna by Loading with Strips  
*Linli Jiang, Chunlan Lu, Wenquan Cao, Changsong Wu* (China, Mainland)
- P.26 Band Broadening Design of a Ku Band Planar Slot Array Antenna  
*Fuping Hou, Ting Zheng* (China, Mainland)
- P.27 Research on the Design Techniques of Mushroom Shaped Artificial Magnetic Conductor  
*Bo Han, Shibing Wang, Qiang Zhao* (China, Mainland)
- P.28 A Patch Antenna with Frequency Scanning Characteristic  
*Chunmei Meng, Jin Shi, Qinghua Cao, Wenwen Yang, Jian Wang* (China, Mainland)
- P.29 Design of a Broadband Dual-Polarized Microstrip Antenna Array with High Isolation  
*Min Kai, Fupin Hou, Dan Sun* (China, Mainland)
- P.30 Study of Reconfigurable Circular Polarization GNSS Antenna  
*Ying Li, Yuan Yao, Xiaoming Liu, Limei Qi, Zhijiao Chen, Junsheng Yu, Xiaodong Chen* (China, Mainland)
- P.31 Polarization Analysis of a Cavity-Backed Circularly Polarized Slot Antenna  
*Ping Li, Hanshuang Jia* (China, Mainland)
- P.32 Simulation Analysis on the Calculation of Mesh Braided Folding Reflector Antenna Performance  
*Zuoling Niu, Junfang Zhang, Peipei Zhang, Ping Li* (China, Mainland)
- P.33 Study on A Way to Broaden the Beamwidth of Microstrip Antenna by Vertical Current  
*Guangwei Yang, Jianying Li, Dujuan Wei* (China, Mainland)
- P.34 Effective Methods for Analyzing and Improving Antenna Isolation  
*Rui-Qi Sun, Lu Gao, Shuyuan Chen, Pei Zheng, MingLiang Wang, RunHui Wu* (China, Mainland)
- P.35 Design of a Circularly Polarized Omni-directional ZOR Antenna for 5G Millimeter Wave  
*Kai Sun, Lin Peng, Xing Jiang* (China, Mainland)
- P.36 Design of A Novel Dual Band High Gain Antenna Based on the Enhancement of Wave Propagation  
*Yang Hou, Minquan Li, Yadong Wei, Xuyun Long, Yuan Zhu* (China, Mainland)

- P.37 A Circularly Polarized Slot Antenna With Enhanced Axial Ratio Bandwidth  
*Hui-Fen Huang, Bin Wang* (China, Mainland)
- P.38 Simulation and Analysis of the Substrate Integrated Waveguide Slot Antenna Fed by Coaxial Cable  
*Lizhong Song, Bo Sun, Wei Lin, Sai Li* (China, Mainland)
- P.39 Microstrip-Line-Slot-Fed Square-Ring Patch Antenna With Dual-Band Bore-Sight Radiation Patterns  
*Wenquan Cao, Zhiyuan Zeng, Changliang Deng, Wei Hong* (China, Mainland)
- P.40 A W-band Reflectarray Antenna on Conformal Parabolic Cylinder Platforms  
*Quan Wang, Sen Feng, Zhengxin Fang, Ming Chen, Mouping Jin* (China, Mainland)
- P.41 Pathological Characteristics of Antenna Polarization in Radar Polarization Parameter Estimation  
*Daoyou Wang, Huanyao Dai, Wenzhao Liu, Rui zhou* (China, Mainland)
- P.42 Optimization method of Antenna System Radiation Capability  
*Rui-Qi Sun, Tianbo Liu, Shuyuan Chen, Lu Gao, Pei Zheng, MingLiang Wang, RunHui Wu* (China, Mainland)
- P.43 Design of a W-band dual-polarized monopulse Cassegrain antenna feed by five-unit horns  
*Xixi Feng, Jiang Jia, Junhao Gong, Hao Luo, Houjun Sun* (China, Mainland)
- P.44 A Novel Leaky-Wave Antenna Based on 1-Bit Coding Metamaterials  
*Xiaoqing Chen, Xiang Wan, Tiejun Cui* (China, Mainland)
- P.45 Design of Cross Polarization Conversion Metasurface Using Dumbbell-Like Unit Cell  
*Mustafa K. Taher Al-Nuaimi, Wei Hong, Abdelhady Mahmoud* (China, Mainland)
- P.46 A low profile circularly polarized antenna fed by SIW TE<sub>20</sub> mode  
*lubing Sun, Yingsong Zhang, Zuping Qian, Jiadong Lin* (China, Mainland)
- P.47 Inkjet-printed Encodable Chipless RFID Sensor Based on Microfluidics  
*Qi Liu* (China, Mainland)
- P.48 Research on the Single Radiated-Mode Leaky Coaxial Cable with Inclined Slots  
*Cong Zeng, Hongmin Lu* (China, Mainland)
- P.49 A Design of Narrow Beam Printed Planar Log-periodic Dipole Antenna  
*Xiao-Feng Li* (China, Mainland)
- P.50 An Oval-Shaped Broadband  $\pm 45^\circ$  Dual-Polarized Base Station Antenna For 2G/3G/LTE Applications  
*Xing-Wei Xiao, Yong-Dan Kong, Qing-Xin Chu* (China, Mainland)
- P.51 A Wideband High-Gain Quasi-Yagi Antenna for Millimeter-wave Applications  
*Yang Cheng, Yong Li* (China, Mainland)
- P.52 Miniaturized Design of CPW-Fed Slot Antennas Using Slits  
*Ziyang Li, Leilei Liu, Pinyan Li, Jian Wang* (China, Mainland)
- P.53 Design of A Dual-Band Dual-Sense Circularly Polarized Annular-Ring Slot Antenna  
*Jianxing Li, Kaida Xu, Lumei Li, Juan Chen, Anxue Zhang* (China, Mainland)
- P.54 A Low-profile Dual-polarized Ka-band Antenna for Wide Angle Scanning Phased Arrays  
*Pei Su, Dan Sun, Zhaocheng Zhang* (China, Mainland)
- P.55 A Broadband Dual Circularly Polarized U-Slot Patch Antenna and Its Array  
*Shuaike Huo, Chuanfang Zhang, Keyu Yi, Haipeng Liu, Yannan Zhang* (China, Mainland)
- P.56 A Novel Design of Leaky Wave Antenna Based on Composite Right/ Left-handed Structure  
*Pinyan Li, Leilei Liu, Ziyang Li, Jianing Cai* (China, Mainland)
- P.57 A Flexible Miniaturized Square-Ring UHF RFID Tag Antenna with Circular Polarization  
*Jiadong Hu, Wen Su, Bian Wu* (China, Mainland)

- P.58 Scanned Slot Array fed by inclined Slots in Ridge Waveguide  
*Bingyun Shi, Tenglong Ke, Qi Luo* (China, Mainland)
- P.59 Low-Profile Dual-band Fabry-Perot Resonator Antenna  
*Kuigen Cao, Feng Xu, Ling Yang* (China, Mainland)
- P.60 Design of Corrugated Ring Loaded Multimode Horn with Axisymmetric Pattern  
*Xiangdong Wang, Yiming Tang, Bo Li, Kai Li, Hongda Xu* (China, Mainland)
- P.61 A L-band dual-circular polarized antenna for vehicle- mounted satellite communication applications  
*Xing-Yue Pu, Bo Chen, Wei Yang, Yi Yan, De-Cai Wang* (China, Mainland)
- P.62 Dual-loop antenna with band-stop circuit for GPS/Bluetooth metal-rimmed smartwatch application  
*Xing-Yue Pu, Bo Chen, Yi Yan* (China, Mainland)
- P.63 Conceptual Design of a Dual-band Circularly Polarized Square Loop Antenna under Even-Mode Resonance  
*Dong-Dong Wang, Cheng-Ying Yuan, Wen-Jun Lu, Hong-Bo Zhu* (China, Mainland)
- P.64 Filtering Dipole Antenna with a Continuous Impedance Bandwidth and a Frequency-Spatial Notch-Band in Radiation Gain  
*Sheng-Guang Wang, Wen-Jun Lu, Qing Li, Jia-Chen Peng, Hong-Bo Zhu* (China, Mainland)
- P.65 Design of a K-Band Feed Network with Dual Circular Polarization  
*Jun Shi, Xiaoxing Yin, Weiye Zhong* (China, Mainland)
- P.66 A Novel Broadband Circular-polarized Magneto-electric Dipole antenna Based on FSS  
*Qingyun Zeng, Wu Ren, Zhenghui Xue, Weiming Li* (China, Mainland)
- P.67 Dissimilar metasurface superstrate high directivity antenna  
*Rui Xi, Long Li, Tianliang Zhang, Peng Wang* (China, Mainland)
- P.68 High-efficiency Broadband Metasurface with Silicon Nanoantenna in Visible Spectrum  
*Qizhang Zhou, Lin Cheng, Pengfei Cao, Tiaoming Niu, Hailong Zhang* (China, Mainland)
- P.69 A Novel Magic-T Based on Hybrid Integration Technology of Planar Circuits and NRD-Guide  
*Ling Yang, Feng Xu, Senshen Deng* (China, Mainland)
- P.70 A Balanced-to-Balanced Filtering Gysel Power Divider with Unequal Power Division  
*Bo-Yuan Wang, Xiang-Yu Wang, Lin-Sheng Wu, Jun-Fa Mao* (China, Mainland)
- P.71 Multi-Beam Reflector Antenna Architecture for Beam-Hopping and Size Reduction System  
*Mingtao Zhang, Chunbang Wu, Yongchang Jiao, Shenghua Zhai, Ying Zhao* (China, Mainland)
- P.72 Design of Compact Six-Channel Diplexer Using Crossed Resonators  
*Qiang Shao, Fu-Chang Chen, Qing-Xin Chu* (China, Mainland)
- P.73 A dual-band Polarization-Independent and Wide-Angle Metasurface for Electromagnetic Power Harvesting  
*Xuanming Zhang, Long Li* (China, Mainland)
- P.74 Digital Predistortion for a Dual-Band Envelope-Tracking Power Amplifier with Reduced Bandwidth Requirement for RF and Envelope Paths  
*Qianyun Lu, Fan Meng, Rui Zhang, Jixin Chen, Chao Yu* (China, Mainland)
- P.75 A C-Band Low Phase-Noise Oscillator Using Complementary Split-Ring Resonators  
*Heng Du, Feihong Tang, Hui Zhang, Xutao Yu, Peng Chen* (China, Mainland)
- P.76 Design of Compact Radio Frequency Broadband Signal Source  
*Senyin Ling, Hui Zhang, Peng Chen, Xutao Yu* (China, Mainland)
- P.77 A Decomposed Vector Rotation-based Sideband Distortion Suppression Model for Wideband mmWave Transmitter Leakage Compensation  
*Na Yang, Yan Guo, Chao Yu* (China, Mainland)

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Room A

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**ORAL Session: WA1A**

**Special Session: New Small Antennas for Next-Generation Terminals -  
Organizers: Yingsong Li and GuangLi Yang**

Session Chairs: Yingsong Li and GuangLi Yang

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- 08:00 - 08:30 Antenna Technologies for Mobile Terminal Devices (**invited**)  
*Guangli Yang* (China, Mainland)
- 08:30 - 08:50 Coupling Reduction between Circularly Polarized Patch Antennas with Spiral Resonator Structure  
*Zhicheng Xiao, Jianxing Li, Jingsi Zhang, Anxue Zhang* (China, Mainland)
- 08:50 - 09:10 Design of Circularly Polarized Annular Ring Slot Antenna Loaded With Reactive Components  
*Huimin Huo, Jianxing Li, Juan Chen, Hongyu Shi, Anxue Zhang* (China, Mainland)
- 09:10 - 09:30 Compact and Low-Profile Eight-element Loop Antenna Array for the 3.6-GHz MIMO Operation in the Future Smartphone Applications  
*Hongwei Wang, Guangli Yang* (China, Mainland)
- 09:30 - 09:50 Multi-band LTE Antenna for Wearable Devices  
*Huafeng Shen, Yixin Li, Huanqing Zou, Hongwei Wang, Guangli Yang* (China, Mainland)
- 09:50 - 10:10 Dual-Feed MIMO Antennas with One Shared Radiator for Future 5G MIMO Systems  
*Le Liu, Luyu Zhao, Yuanming Cai, Yingzeng Yin* (China, Mainland)
- 10:10 - 10:30 Cavity-baked Slot Antenna for 5G Communications  
*Bin Yu, Xitong Wu, Kang Yang, Zhanyi Qian, Guangli Yang* (China, Mainland)
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**ORAL Session: WA2A**

**Special Session: Novel Antenna and 3-D Printed Design for Practical Applications - Organizers: Guan-Long Huang and Desmond Sim**

Session Chairs: Guan-Long Huang and Desmond Sim

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- 10:30 - 11:00 Application of 3-D Metal Printing to Microwave Components and Antennas (**invited**)  
*Guan-Long Huang, Tao Yuan* (China, Mainland)
- 11:00 - 11:20 Design of low profile RFID Tag Antenna with 5.8GHz used in ETC under the metallic environment  
*Jie Zhang, Chao Guo, Zijian Xing, Wenle Yuan, Wei Wang* (China, Mainland)
- 11:20 - 11:40 Small-size WLAN/5G MIMO Antenna for Laptop Computer Applications  
*Wen-Shan Chen, Jia-Hong Shu, Chow-Yen-Desmond Sim* (Taiwan)
- 11:40 - 12:00 Multiband Antennas for GSM/GPS/LTE/WLAN Smart Watch Applications  
*Wen-Shan Chen, Guan-Quan Lin, Guang-Ren Zhang, Chow-Yen-Desmond Sim* (Taiwan)
- 12:00 - 12:20 A long chain-like reader antenna for UHF RFID application  
*Haotian Li, Zijian Xing* (China, Mainland)

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Room B

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**ORAL Session: WA1B**

**Antennas**

Session Chairs: Ville Viikari and Wenhua Chen

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- 08:00 - 08:30 Antenna Tuning without Physical Matching Elements (**invited**)  
*Jari-Matti Hannula, Ville Viikari, Tapio Saarinen, Anu Lehtovuori, Jari Holopainen* (Finland)
- 08:30 - 08:50 Ultra Thin Microstrip Phase Shifter Based on Carbon Nanotube Membranes  
*Yunfan Wang, Wenhua Chen* (China, Mainland)
- 08:50 - 09:10 Design of Graphene Terahertz Reflectarray Based on Boron Nitride Substrate  
*Yue Yin, Yuan Yao, Xiaoming Liu, Limei Qi, Zhijiao Chen, Junsheng Yu, Xiaodong Chen* (China, Mainland)
- 09:10 - 09:30 A compact multiband antenna based on metamaterial for WLAN/WiMAX/WAVE applications  
*Xu Pan, Minquan Li, Shandong Wang, Yongguang Zhou, Chunchun Shen, Xuanxuan Li* (China, Mainland)
- 09:30 - 09:50 Metamaterial-based Feed Antenna with Dual-polarized Elliptical Radiation Beam  
*Lei Liu, Yingran He, Wenjing Zhang* (China, Mainland)
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**ORAL Session: WA2B**

**Antennas**

Session Chairs: Hisamatsu Nakano and Xiaoming Chen

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- 10:20 - 10:50 Effects of Finite Ground Plane Size on Radiation Characteristics for a Tilted-beam Antenna System (**invited**)  
*Hisamatsu Nakano, Yuhei Kameta, Junji Yamauchi* (Japan)
- 10:50 - 11:10 A Novel Wide-Angle Scanning Pattern Reconfigurable Antenna  
*Gaigai Zhang, Tongxin Wei, Haixiong Li, Jun Ding, Chenjiang Guo* (China, Mainland)
- 11:10 - 11:30 140GHz Low-Profile and High-Gain Slot Array Antennas  
*Zihang Qi, Yuhang Huang, Xiuping Li* (China, Mainland)
- 11:30 - 11:50 Throughput based Characterizations of Handset MIMO Antennas  
*Jiao Sun, Xiaoming Chen, Anxue Zhang, Yansheng Jiang* (China, Mainland)
- 11:50 - 12:10 Coupling Theory for Antennas Based on Characteristic Modes  
*Jiang-Feng Lin, QingXin Chu* (China, Mainland)

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**Room C**

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**ORAL Session: WA1C**

**Antennas**

Session Chairs: Ling Jin and Zengrui Li

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- 08:00 - 08:30 A New Series- and Parallel-Feed-Network (**invited**)  
*Ling Jin* (China, Mainland)
- 08:30 - 08:50 Dual Reflector Zoom Antenna Based on Optical Imaging Theory for Satellites in Elliptical Orbits  
*Fei Teng, Zhengjun Li* (China, Mainland)
- 08:50 - 09:10 Design of A Beam Scanning Reconfigurable Reflectarray at Ku-Band  
*Yang Liu, Hongjian Wang, Guang Liu, Xingchao Dong* (China, Mainland)
- 09:10 - 09:30 Design and Experiment of Varactor tuned Digital Reconfigurable Reflective Metasurface Unit  
*Jiaqi Han, Weimin Xue, Na Kou, Long Li* (China, Mainland)
- 09:30 - 09:50 Low-Profile Inductance-loaded Square Loop Antenna With steerable beam  
*Lu Chen, Qingxin Guo, Ling Wang, Zengrui Li* (China, Mainland)
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**ORAL Session: WA2C**

**Antennas**

Session Chairs: Yujian Cheng and Ling-Feng Shi

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- 10:20 - 10:50 Wideband Quasi-Non-Diffraction Beam with Large Depth-of-Field and Controllable Propagating Angle (**invited**)  
*Yujian Cheng, Yichen Zhong* (China, Mainland)
- 10:50 - 11:10 Compact Decoupling Structure for Improving Isolation of MIMO Antennas  
*Jian-Hui Xun, Ling-Feng Shi, Gong-Xu Liu, Sen Chen* (China, Mainland)
- 11:10 - 11:30 P Band Dual Circular Polarization Membrane Antenna Array  
*Yijiang Zhang* (China, Mainland)
- 11:30 - 11:50 A Low Mutual Coupling MIMO Antenna Using 3-D Electromagnetic Isolation Wall Structures  
*Tianqi Jiao, Tao Jiang, Yingsong Li* (China, Mainland)
- 11:50 - 12:10 Design of a Folded Fresnel Reflector (FFR) With Jerusalem-Cross-Shape Element  
*Lvwei Chen, Yuehe Ge, Xin Liu, Chengxiu Lin* (China, Mainland)



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Room D

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**ORAL Session: WA1D**

**Wave Propagation**

Session Chairs: C. H. Chan and Ronghong Jin

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- 08:00 - 08:30 A THz Near-Field Scanning System for Antenna Measurement (**invited**)  
*C. K. Wong, K. B. Ng, H. Yi, S.-W. Qu, C. H. Chan* (Hong Kong)
- 08:30 - 08:50 Wave Propagation Models for 5G Radio Coverage and Channel Analysis  
*Reiner Hoppe, Gerd Wölfle, Peter Futter, Jordi Soler* (United States)
- 08:50 - 09:10 Anomalous refraction in an all-dielectric gradient metasurface  
*Linda Shao, Weiren Zhu, Xianling Liang, Junping Geng, Ronghong Jin* (China, Mainland)
- 09:10 - 09:30 Numerical Study and Analysis of Ultra-Wideband Signal Propagation through Rotating Glass Door  
*Richa Bharadwaj, Shibani K. Koul* (India)

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**ORAL Session: WA2D**

**Wave Propagation**

Session Chairs: Wei E. I. Sha and Wanzhao Cui

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- 10:20 - 10:50 Spin and Orbital Angular Momenta of Electromagnetic Waves: A Preliminary Study (**invited**)  
*Wei E. I. Sha* (China, Mainland)
- 10:50 - 11:10 Multi-UCA Based OAM-Carrying Vortex Electromagnetic Wave Transmission Characteristics Analysis  
*Qiang Feng, Long Li* (China, Mainland)
- 11:10 - 11:30 Investigation of Dual-mode SIW Filters with Different Port Positions  
*Lewei Cao, Feng Xu, Siyuan Yao, Jian Yang* (China, Mainland)
- 11:30 - 11:50 A differential waveguide phase shifter for Q-band cryogenic receivers  
*Weiye Zhong, Xiaoxing Yin, Jun Shi, Cong Liu* (China, Mainland)
- 11:50 - 12:10 Design of a new type S-band coaxial diplexer with reduced footprint  
*Wang Qi, Wanzhao Cui* (China, Mainland)

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Room E

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**ORAL Session: WA1E**

**Electromagnetics**

Session Chairs: Guoqing Luo and Xiaowei Shi

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- 08:00 - 08:30 3D Frequency Selective Rasorber With Wide Lower Absorption Band (**invited**)  
*Guoqing Luo, WeiLiang Yu, Yufeng Yu* (China, Mainland)
- 08:30 - 08:50 A Novel Mesh Generation Method for FDTD without Ray-Tracing  
*Zhenyu Yu, Wei Zhao, Le Xu, Xiaowei Shi* (China, Mainland)
- 08:50 - 09:10 Accelerated Computing FDTD Algorithm Based on Lossy Dispersion Medium in Low Frequency  
*Xiangpeng Liu, Kuisong Zheng, Longfei Xu, Yang Liu* (China, Mainland)
- 09:10 - 09:30 Novel Element of Frequency Selective Surfaces Based on Dipole Patch Element  
*Cheng Chen, Yuyun Hu, Menglu Qiao, Zhongwei Yang* (China, Mainland)
- 09:30 - 09:50 Discontinuous Galerkin Time-Domain Method Based on A New Marching-On-in Degree Scheme  
*Peng Wang, Cheng-Yi Tian, Yan Shi, Long Li* (China, Mainland)
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**ORAL Session: WA2E**

**Electromagnetics**

Session Chairs: Yijun Feng and Yan Shi

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- 10:20 - 10:50 Metasurfaces for Efficient Reduction of Electromagnetic Scattering (**invited**)  
*Yijun Feng, Ziheng Zhou, Ke Chen, Bo Zhu, Junming Zhao, Tian Jiang* (China, Mainland)
- 10:50 - 11:10 Scattering Characteristics of Underwater Targets with Different Shapes in Low Frequency  
*Longfei Xu, Kuisong Zheng, Xiangpeng Liu, Yajing Li* (China, Mainland)
- 11:10 - 11:30 Helmholtz Wave Equation Based Discontinuous Galerkin Time Domain Method for 3D Electromagnetic Analysis  
*Cheng-Yi Tian, Peng Wang, Yan Shi, Long Li* (China, Mainland)
- 11:30 - 11:50 An Optimal Power-to-Amplitude Transformation Strategy of Multi-Carrier for FDTD Simulation of Waveguide Devices  
*Xichao Bo, Jianfeng Zhang, Tiejun Cui* (China, Mainland)
- 11:50 - 12:10 A Circular-Shaped Perfectly Matched Layer Strategy for Rectangular FDTD Grids  
*Lu Wang, Hong-Xing Zheng, Meng-Jun Wang, Er-ping Li* (China, Mainland)

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Room F

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**ORAL Session: WA1F**

**Special Session: Characteristic Mode And Its Applications - Organizers:**

**Hui Li and Yikai Chen**

Session Chairs: Hui Li and Yikai Chen

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- 08:00 - 08:20 A Decoupling Method in Characteristic Modes Tracking  
*Pengyu Chen, Mang He, Chuanfang Zhang* (China, Mainland)
- 08:20 - 08:40 Probe-Fed Broadband Low-Profile Metasurface Antennas using Characteristic Mode Analysis  
*Fenghan Lin, Zhining Chen* (Singapore)
- 08:40 - 09:00 Automatic Feeding Arrangement based on Theory of Characteristic Mode  
*Hui Li, Sining Sun, Baoyi Wang* (China, Mainland)
- 09:00 - 09:20 Revisit of Signal Traces Crossing Split Ground Plane Using Characteristic Mode Analysis  
*Zhongkui Wen, Qi Wu* (China, Mainland)
- 09:20 - 09:40 Characteristic Mode Analysis of Composite Metallic-Dielectric Bodies  
*Liwen Guo, Yikai Chen, Shiwen Yang* (China, Mainland)
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**ORAL Session: WA2F**

**Microwaves, Millimeter Waves, and THz**

Session Chairs: Huei Wang and Wonbin Hong

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- 10:20 - 10:50 Millimeter-Wave Planar Antenna Design Considerations for SiP and SoC Applications (**invited**)  
*Li-Chi Chang, Huei Wang* (Taiwan)
- 10:50 - 11:10 Research on the Technical of Microwave Dual-passbands Filters  
*Liang-Yu Zhong* (China, Mainland)
- 11:10 - 11:30 Compact Dual-band Bandpass Filter Based On Zeroth-order Resonator with Large Center Frequency Ratio  
*Guangxu Shen, Wenquan Che* (China, Mainland)
- 11:30 - 11:50 A Novel N-way Power Divider With In-phase or Out-of-phase Output  
*Xu-Chun Zhang, Zhen-Heng Liao, Xiao Yang* (China, Mainland)
- 11:50 - 12:10 Continuous and Reconfigurable Doherty Power Amplifier Using Tunable Comb Structure  
*Xiaoxiao Kong, Chang Jiang You, Yuanwang Yang, Xueyong Zhu, Xuekun Du* (China, Mainland)

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Room G

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**ORAL Session: WA1G (Joint Session)**  
**EMC Measurements and Environment**

Session Chairs: Xingchang Wei and Xiuyin Zhang

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- 08:00 - 08:20 Recent Developments of Tunable Microwave Absorbers Using Graphene (**invited**)  
*Da Yi, Xingchang Wei* (China, Mainland)
- 08:20 - 08:40 Wideband and Multi-Band MIMO Antenna Using Hybrid Electric and Magnetic Coupling for Isolation Enhancement (**invited**)  
*Xiuyin Zhang, Chengdai Xue, Wen Duan* (China, Mainland)
- 08:40 - 09:00 Model Pre-processing Technique for Electromagnetic Susceptibility Assess on Land Vehicle  
*Xiaofan Zhao, Chunming Li* (China, Mainland)
- 09:00 - 09:20 Millimeter-Wave Propagation Measurement and Simulation in a Indoor Office Environment at 28 GHz  
*Shuangde Li, Yuanjian Liu, Leke Lin, Mengxue Wang, Zhong Sheng, Dingming Sun* (China, Mainland)
- 09:20 - 09:40 Spectrum Data Feature Analysis Based on Support Vector Machine Method  
*Jiayi Wu, Shuo Cui, Donglin Su* (China, Mainland)
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**ORAL Session: WA2G (Joint Session)**

**special session: Numerical Techniques for Solving EMC Problems -**  
**Organizer: Meisong Tong**

Session Chairs: Meisong Tong

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- 10:20 - 10:40 Accurate Solution of Volume Integral Equations for Dielectric Body of Revolution  
*Shuna Jiang, Meisong Tong* (China, Mainland)
- 10:40 - 11:00 Broadband Analysis of Microwave Devices Using Asymptotic Waveform Evaluation and Nested Matrix Decomposition  
*Ting Wan, Mengzhe Li, Benliu Tang* (China, Mainland)
- 11:00 - 11:20 A Novel TDFEM Scheme Based on High Performance Parallel Solver PaStiX  
*Xia Wu* (China, Mainland)
- 11:20 - 11:40 RSSI-Based Indoor Location with Circularly Polarized Antennas and LUDM Algorithm for Wireless Sensor Network  
*Cong Wang, Ruixuan Huang, Minfeng Gu, Gaobiao Xiao* (China, Mainland)
- 11:40 - 12:00 A Simple Design Method for Dual-band Filtering Antenna Array Using a Transmission Line  
*Yao Zhang, Xiuyin Zhang, Yong-Mei Pan, Quan Xue* (China, Mainland)
- 12:00 - 12:20 A Feasibility Study of Microwave Respiration Monitoring  
*Haolin Zhang, Maokun Li, Fan Yang, Shenheng Xu* (China, Mainland)
- 12:20 - 12:40 A Model-Based Inversion Method for Reconstruction of 3D Anisotropic Permittivities  
*Lin E. Sun, Shicong Wang, Meisong Tong* (China, Mainland)

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Room H

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**ORAL Session: WA1H (Joint Session)**  
**Low Frequency and Power Electronics & Lightning**

Session Chairs: Cheng Zhuo and Yan Li

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- 08:00 - 08:20 Application of Miniature TSV-Inductor: From Regulation to Sensing (**invited**)  
*Cheng Zhuo, Baixin Chen* (China, Mainland)
- 08:20 - 08:40 Investigation of Power Distribution Planes with Multi-Slots Using Plane-pair PEEC Method (**invited**)  
*Yan Li, Wenyuan Cao, Panpan Zuo, Yanbo Xu, Xiaoli Yang, Cheng Ping, Yongsheng Li, Zhang Le, Erping Li* (China, Mainland)
- 08:40 - 09:00 Ground-level Observation of Terrestrial Gamma-ray Bursts Initiated by Lightning  
*Xiaoqiang Li, Rubin Jiang, Yi Zheng, Hongzhao Zhou, Bin Xing, Yingnan Li, Wei Liu* (China, Mainland)
- 09:00 - 09:20 A High Sensitivity Partial Discharge Current Measurement Method for the High Voltage IGBT  
*Pengyu Fu, Rui Jin, Zhibin Zhao, Teng Wen, Haoyu Wang, Li Li* (China, Mainland)
- 09:20 - 09:40 Novel method to extract the stray inductance from IGBT switching curves  
*Xinling Tang, Yan Pan, Jinyuan Li, Peng Zhang, Rui Jin, Zhibin Zhao, Xiang Cui* (China, Mainland)
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**ORAL Session: WA2H (Joint Session)**  
**High Power Electromagnetics**

Session Chairs: Qi Wu and Henglin Chen

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- 10:20 - 10:40 Characteristic Modes of Several Components in Digital Systems: Computation and Observations (**invited**)  
*Qi Wu* (China, Mainland)
- 10:40 - 11:00 Evaluation of Communication Error Rate Induced by Common-mode Interference of a Motor Drive System (**invited**)  
*Henglin Chen, Chao Sun, Kaikai Chen, Xiaofan Zhao* (China, Mainland)
- 11:00 - 11:20 A di/dt and dv/dt Feedback-Based Digital Gate Driver for Smart Switching of IGBT Modules  
*Yang Wen, Yang Yuan* (China, Mainland)
- 11:20 - 11:40 Study of HPM Nonlinear Effect on Circuit System Consisting of PIN Limiter by Using Hybrid Method  
*Haiyan Xie, Yong Li, Chun Xuan, Jianguo Wang* (China, Mainland)
- 11:40 - 12:00 Design of SIW Parallel Coupling Coupler at Q-Band  
*Xuesong Shi, Xiaowei Zhu* (China, Mainland)

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Room P

09:40 - 10:30

**POSTER Session: WA - P**

**Poster Session: WA - P**

- P.1 Design and Optimization of Conformal Antenna System  
*Shuyuan Chen, Lu Gao, Ruiqi Sun, Jiaqi Liu, Jingliang Bai, Zhiye Jiang, Peng Qin, Hu Li, Pei Zheng, Wang Minliang* (China, Mainland)
- P.2 Design of GPS/WLAN Antenna for Full Metal Cover Tablet PC  
*Liyang Nie, Xianqi Lin, Jin Zhang, Yuan Jiang, Hui Deng* (China, Mainland)
- P.3 Microwave Ablation Antenna with Ablation Area Being a Flat Section  
*Dongyi Liu, Xianqi Lin, Wangmao Liu, Xiaocui Jia* (China, Mainland)
- P.4 Design of Tri-Band Antenna with Rectangular Ring for WLAN and WiMAX Application  
*Kaiyao Yu, Xiangjun Liu* (China, Mainland)
- P.5 Coupler Design Method Based on Stripline Frequency Scanning Antenna  
*Kai Guo, Yunqi Fu* (China, Mainland)
- P.6 Planar Circularly Polarized Antenna Backed by Triangle Integrated Waveguide Cavity  
*Jie Yan, Feng Xu, Senshen Deng* (China, Mainland)
- P.7 High Performance Linearly Tapered Slot Antenna(LTSA) Using Parasitic Patch  
*Chuang Zhang, Yangsheng Hu, Xiuhua Jin, Xiaodong Huang* (China, Mainland)
- P.8 High Gain Printed Quasi Log-Periodic Dipole Antenna with Exponential Profile  
*Yangsheng Hu, Chuang Zhang, Xiaodong Huang, Xiuhua Jin* (China, Mainland)
- P.9 Beam Synthesis and Angle Measurement Based on Aperture Coding Metasurface  
*Qinhao Wu, Yongqiang Cheng, Xiang Li, Hongqiang Wang, Yuliang Qin* (China, Mainland)
- P.10 A Multi-beam Antenna with 360° Beam Scanning Ability  
*Cuicui Wu, Min Feng, Puxiang Tang* (China, Mainland)
- P.11 Conical Surface Mount Short Horn for Circular Polarized Antennas  
*Vignesh Shanmugam Bhaskar, Eng Leong Tan, King Ho Holden Li, Man Siu Tse* (Singapore)
- P.12 Generation of Dual-modes OAM Beams based on SIW Circular Slot Antenna  
*Bowei Ke, Lei Li, Zengqiang Wu, Junkai Bai* (China, Mainland)
- P.13 Design of conformal phased array with lens  
*Juxing Yang, Juan Lei, Guoqing Cheng, Guang Fu* (China, Mainland)
- P.14 A 2.45 GHz Dielectric Resonator Rectenna for Wireless Power Transmission  
*Bohan Zhang, Jingwei Zhang, Z.P. Wu, Chengguo Liu, Bin Zhang* (China, Mainland)
- P.15 Design of a Smooth-Walled Horn for Satellite Communication in C-Band  
*Ruixiang Liang, Qi Gong, Zhenhua Zhang, Wenchao Song, Hui Wang* (China, Mainland)
- P.16 Design of A Millimeter-Wave Cylindrical Luneberg Lens Antenna with Multiple Fan-Beams  
*Haonan Ren, Shiwen Yang, Shiwei Qu* (China, Mainland)
- P.17 A High-gain Circular Polarized Microstrip Slot Coupling Antenna for Satellite Communication  
*Mingwei Li, Baoyue Xue, Li Li, Yang Xu, Yongxin Guo* (China, Mainland)
- P.18 A Low Profile Planar Horn Antenna for THz Applications  
*Mei Jiang, Xiaoqing Tian, Yong Huang, Lili Zhu* (China, Mainland)

- P.19 A Design of High Performance Splash-plate Feed for Parabolic Reflector Antenna  
*Puxiang Tang* (China, Mainland)
- P.20 Fractal and Conformal UWB Antenna for Wireless Communication applications  
*Zhenya Li, Xiaosong, Zhu, Jianhua Zhang* (China, Mainland)
- P.21 A Wideband Surface Wave Antenna Utilizing a Non-uniform taper-sized Periodically loaded ground plane  
*Guirong Feng, Lei Chen, Xiaowei Shi, Hao Yue, Yaozhou Yang* (China, Mainland)
- P.22 A High-Gain Broadband Stacked Patch Antenna with Finite Ground  
*Jian Wang, Jin Shi, Qinghua Cao* (China, Mainland)
- P.23 Design of a Broadband Log-Periodic Dielectric Resonator Array Antenna  
*Ling-Lu Chen, Lei Chang* (China, Mainland)
- P.24 Ultra-Wideband Monopole Antenna with Lumped Elements  
*Bo-lun Jia, Yong-jiu Zhao, Lei Xing* (China, Mainland)
- P.25 The Design of the Elliptic Monopole Omni-directional Antenna  
*Xinqiao Zhang, Bei Huang* (China, Mainland)
- P.26 A Circularly-polarized Antenna with Broadband Based on CRLH-TL for Navigation Applications  
*Xin-Shuai Luo, Zi-Bin Weng, Lei Wang, Lei Yang* (China, Mainland)
- P.27 A Wideband Metric Wave Reconfigurable Plasma Antenna Design  
*Chao Wang, Bin Yuan, Wenxuan Shi, Feiyue Zhang, Lei Yao* (China, Mainland)
- P.28 A Dual-Polarized Fabry-Perot Cavity antenna with High Gain  
*Mengyao Mi, Shengqiang Zhang, Baohua Sun* (China, Mainland)
- P.29 Design of Ka-band  $2 \times 2$  Circular Polarization Slot Antenna Array Fed by Ridge Gap Waveguide  
*Tong Li, Fangfang Fan* (China, Mainland)
- P.30 Design of a microstrip antenna with filtering characteristics for wireless communication systems  
*Wei-Jun Wu, Ben Ma, Jun Wang, Chun Wang* (China, Mainland)
- P.31 Fractal UWB Patch Antenna with Omnidirectional Pattern  
*Bo Hu, Feihong Tang, Peng Chen, Xutao Yu* (China, Mainland)
- P.32 A Broadband CPW-Fed Circularly Polarized Slot Antenna with F-shaped Feedline  
*Guiping Jin, Guangde Zeng, Chuhong Deng* (China, Mainland)
- P.33 Design and Investigation of an Ultra-Wideband Antenna with Novel Feeding Mechanism  
*Yanfang Wang, Fuguo Zhu, Steven Gao* (China, Mainland)
- P.34 Compact Cavity-Backed Patch Antenna with Wideband Bandwidth Using Parasitic Patch  
*Yanfang Wang, Fuguo Zhu, Steven Gao* (China, Mainland)
- P.35 Design of a Broadband Circularly-Polarized Dielectric Resonator Antenna Array in C-Band  
*Wei Shi, Xiaoqiang Li, Hengrong Cui, Guangli Yang* (China, Mainland)
- P.36 Realization of a Low Radar Cross Section Antenna Based on Band-Notched Absorber  
*Peng Mei, Xianqi Lin, Yaodong Zhao* (China, Mainland)
- P.37 A Wideband Planar Hybrid Coupler Using Coupled-Line Power Divider and Broadband Phase Shifter  
*Rong-Cang Han, Ru-Ying Sun, Shao-Hua Shi* (China, Mainland)
- P.38 Spatial Energy-Focusing Frequency Diverse Array Using Single Side-band Time Modulation Scheme  
*Hao Wang, Siqi Gu, Yuqian Yang, Jianyin Cao* (China, Mainland)
- P.39 Dielectric Characterization In 3mm Band by Open Resonator  
*Qiao Zou, En Li, Yunpeng Zhang, Angran Dong* (China, Mainland)
- P.40 A New Construction Method of Spatial-Temporal Correlation in Sea Clutter Simulation  
*Zhili Wang, Ze Yu, Shusen Wang* (China, Mainland)

- P.41 A Novel System for Active Impedance Test of Phased Array Antenna  
*Qinggong Chang, Ziqi Jiang, Dahai Hu, Liuge Du* (China, Mainland)
- P.42 Optimization Design of Channel Emulator for 5G Indoor hotspot  
*Nianzu Zhang, Zhenbo Jiang, Guangxing Li, Jianhong Xie* (China, Mainland)
- P.43 Novel Method for Measuring the Axial Ratio of Circularly Polarized Antennas Based on the Cross-polarization  
*Bin Li, Ye Deng, Jinping Zhang, Zhipeng Zhou* (China, Mainland)
- P.44 Temperature Compensation Antenna for Near-field EMI Measurement  
*Tao Song, Lingyan Li, Yan Li, Zhongqiu Hua, Hongxing Zhen, Erping Li* (China, Mainland)
- P.45 Design and Verification of Synchronization Antenna for Space-Borne Interferometric SAR Systems  
*Fuguo Zhu, Bo Ren, Rui Li, Jinping Zhang, Steven Gao* (China, Mainland)
- P.46 Active Millimeter-wave Near-field Cylindrical Scanning Three-dimensional Imaging System  
*Wen Xin, Zhang Lu, Weihua Guo, Fei Peng* (China, Mainland)
- P.47 Investigation and Analysis of Focusing Ability and Instrument Structures of Micro-Cylindrically Focused Logging  
*Peng Hao, Xiangyang Sun* (China, Mainland)
- P.48 Design and Research of Highly Selective Frequency Selective Surfaces  
*Cuiwei Tang, Xiaoming Liu, Hai Wang, Haiyang Yu, Yuan Yao, Limei Qi, Zhijiao Chen, Junsheng Yu, Xiaodong Chen* (China, Mainland)
- P.49 Ultra-broadband Metamaterial Absorber with Resistances Loaded  
*Xiaohui Qiu, Yong-Chang Jiao, Li Zhang, Yulin Chang* (China, Mainland)
- P.50 Design of FSS Absorber with Honeycomb Substrate Based on Combination of Equivalent Circuit Model and Effective Electromagnetic Parameters  
*Yu-Chen Zhao, Yan-Ning Yuan, Yu-Rong Pu, Jiang-Fan Liu, Hong-Juan Yang, Xiao-Li Xi* (China, Mainland)
- P.51 A Double-layer Embedded Electromagnetic Bandgap Structure with Two Vias for SSN Suppression  
*Xiaoyun Yang, Shuhui Yang, Ling Wang, Dongdong Zeng, Bin Li* (China, Mainland)
- P.52 Fast Analysis of Dual-reflectors Quasi-optical System Based on Point Matching Method and Gaussian Beam Tracing  
*Hai Wang, Zejian Lu, Xiaoming Liu, Hongbin Ge, Cuiwei Tang, Ran Zhang, Renjie Xu, Junsheng Yu, Xiaodong Chen* (China, Mainland)
- P.53 Coherent Integration Method of Frequency Agile Radar for Target Detection  
*Caiyong Lin, Ruiqi Tian, Qinglong Bao, Zengping Chen* (China, Mainland)
- P.54 Analysis of Influence on Dynamic RCS Simulation by Target Gesture  
*Bo Zhou, Huanyao Dai, Huidong Qiao, Depei Kong* (China, Mainland)
- P.55 Scattering from a Coated Object above a Rough Surface Using Hybrid FEM/MoM  
*Run-Wen Xu, Li-Xin Guo, Xiao-Di Song* (China, Mainland)
- P.56 A System for Synchronous Test of Antenna Pattern and Radar Cross Section  
*Qinggong Chang, Zhen Yan, Ziqi Jiang, Dahai Hu, Liuge Du* (China, Mainland)
- P.57 The Study of Phase Gradient Metasurface and Its 2-Dimensional Extension  
*Hezhu Wang, Wu Ren, Zhenghui Xue, Weiming Li* (China, Mainland)
- P.58 An Improved SVD-CBFM for Fast Solution of Multiple Incident Excitations Electromagnetic Scattering  
*Jinyu Zhu, Yufa Sun, Yahui Ding* (China, Mainland)
- P.59 Design of Wideband Bandpass Filter Using Quadruple-Mode Rectangular Cavity Resonator  
*Yuming Wu, Shiyan Zhou, Jingyu Lin, Lu-Wang Zhou, Sai-Wai Wong, Lei Zhu, Qing-Xin Chu* (China, Mainland)



- P.60 A W-band SIW Filter Based on 90 nm GaAs MMIC Technology  
*Ziwei Xu, Di Zhang, Guoqiang Zhao, Houjun Sun* (China, Mainland)
- P.61 A Wideband SIW-to-Waveguide Transition at W-band  
*Di Zhang, Ziwei Xu, Yu Xiao, Houjun Sun* (China, Mainland)
- P.62 Terahertz Broadband Ridge Gap Waveguide to Microstrip Line Transition Structure  
*Yijing Liu, Yanfei Hou, Changjiang Deng, Weihua Yu, Xin Lv* (China, Mainland)
- P.63 Design on absorptive microstrip bandstop filter utilizing quadrature coupler  
*Zheng Chen, Liu He, Xingjian Zhong, Dexin Qu* (China, Mainland)
- P.64 A Dual-Mode Dielectric Resonator Filter with Slotted Metal Patches  
*Cheng-Yan Li, QingXin Chu* (China, Mainland)
- P.65 A Miniaturized 3-dB Microstrip Rat-Race Coupler Using Shorted Trans-Directional Coupled Lines  
*Yuan Cao, Zhongbao Wang, Shaojun Fang, Hongmei Liu* (China, Mainland)
- P.66 A Reconfigurable Power Divider with Large Power Dividing Ratios  
*Tianyu Zhang, Wenquan Che, Haidong Chen* (China, Mainland)
- P.67 A Novel Ku-band Low Phase Noise Frequency Hopping Source  
*Yijie Wang, Peng Chen, Mingyang Liu, Hui Zhang, Xutao Yu* (China, Mainland)
- P.68 Study on the Impact of High Power Amplifier on Pseudo Random Noise Code Ranging  
*Junhao Gong, Lu Zhang, Xixi Feng, Yu Xiao, Houjun Sun* (China, Mainland)
- P.69 A Miniature Bandpass Filter using Multilayered PCB Technology  
*Heng Zha, Fang-Fang Kong, Zhang-Cheng Hao* (China, Mainland)
- P.70 800W Pulsed Solid State Power Amplifier for L-Band Spaceborne Applications  
*Pu Su, Cheng Wang, Lei Wang* (China, Mainland)
- P.71 Modulation and Demodulation Circuits of MIMO Radar based on QPSK  
*Zhiwei Liu, Dingye Liu, Judong Zhang, Jingping Liu* (China, Mainland)
- P.72 Power Divider Based on Substrate Integrated Nonradiative Dielectric Waveguide  
*Jinnuo Qian, Feng Xu, Jie Yan, Kuigen Cao* (China, Mainland)
- P.73 An experimental Ka-band transmit/receive unit integrated with slot antennas  
*Lihua Zhan, Hao Shi, Zhipeng Zhou* (China, Mainland)
- P.74 A Harmonic Controlled Doherty Power Amplifier with Enhanced Efficiency at Back-off Power  
*Shuailei Zhu, Xiaoen Chen, Wa Kong, Dawei Ding, Jing Xia* (China, Mainland)
- P.75 Low Loss Half Mode Mode-Selective-Transmission-Line :A New Compact Single Layer Guide Wave Structure for Millimeter Wave Application  
*Zengqiang Wu, Lei Li, Bowei Ke, Dehao Zhao* (China, Mainland)
- P.76 Microstrip Parallel-coupled Line Wideband Band-pass Filter Using E-shape Resonator  
*Dong-Sheng LA, Shou-Qing Jia, Long Cheng* (China, Mainland)

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Room A

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**ORAL Session: WP1A**

**Special Session: Miniaturization and De-coupling Techniques for Base Station Antennas - Organizers: Xiuyin Zhang and Sheng Sun**

Session Chairs: Xiuyin Zhang and Sheng Sun

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- 13:30 - 14:00 Miniaturized Dual-Band Base Station Antenna Arrays with Filtering Elements  
(invited)  
*Xiuyin Zhang* (China, Mainland)
- 14:00 - 14:20 Multi-band Antenna Design for Full Metal Casing Mobile Handset  
*Kuixi Yan, Peng Yang, Feng Yang, Ximeng Wang, Junxiao Wang* (China, Mainland)
- 14:20 - 14:40 Synthesis and Design of Filtering Antenna Based on J/K Inverters and  $\lambda/4$  Resonators  
*Peijin Dong, Sheng Sun, Xi Yu* (China, Mainland)
- 14:40 - 15:00 Design of High-Isolation Diplexer Based on Microstrip Coupled Lines  
*Xun Chen, Xi Yu, Sheng Sun* (China, Mainland)
- 15:00 - 15:20 Performance Study of Sequentially Rotated Feeding Antenna Array for Circular Polarization  
*Yan Li, Buning Tian* (China, Mainland)
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**ORAL Session: WP2A**

**Special Session: Graphene based micro/millimeter wave components - Organizer: Weibing Lu**

Session Chairs: Weibing Lu and Bian Wu

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- 16:00 - 16:20 Tunable Ultra Wideband Microwave Absorber Based on Multilayer Graphene Resistive Loops  
*Jin Zhang, Weibing Lu, Hao Chen, Zhenguo Liu* (China, Mainland)
- 16:20 - 16:40 A Tunable Attenuator on Graphene-based Substrate Integrated Waveguide  
*Anqi Zhang, Weibing Lu, Zhenguo Liu, Yang Yi, Hao Chen, Baohu Huang* (China, Mainland)
- 16:40 - 17:00 Graphene-based Broadband Reflection-type Modulator with Tunable Amplitude  
*Huiling Li, Bian Wu, Yutong Zhao, Wei Zhang, Lianxing He* (China, Mainland)
- 17:00 - 17:20 Study of a Metallic Antenna Backed by Graphene-Based Reflector  
*Danli Tang, Bin Zhang, Chengguo Liu, Jingwei Zhang, Daping He, Zhi Wu* (China, Mainland)
- 17:20 - 17:40 Flexible Graphene Based Films for Microstrip Array Antennas  
*Rongguo Song, Chunyu Liu, Jingwei Zhang, Chengguo Liu, Daping He, Zhi Wu* (China, Mainland)

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Room B

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**ORAL Session: WP1B**

**Antennas**

Session Chairs: Steven Gao and Shiwen Yang

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- 13:30 - 14:00 Wideband Circularly Polarized Antennas for Satellite Communications (**invited**)  
*Long Zhang, Steven Gao, Qi Luo* (United Kingdom)
- 14:00 - 14:20 Design of broadband end-fire antenna array  
*Haobin Zhang, Liang Wang, Wangwang Han* (China, Mainland)
- 14:20 - 14:40 A Novel Wideband and High-Gain Bow-tie Slot Antenna with Aperture Coupled Feeding Structure  
*Hao Wang, Zengxia Ding, Shuang He, Jianyin Cao, Yuqian Yang* (China, Mainland)
- 14:40 - 15:00 A Directional Conformal Antenna Array for Failure Detectors in Smart Grid Applications  
*Fuwen Tan, Duolong Wu, Bei Huang, Jianfeng Li* (China, Mainland)
- 15:00 - 15:20 Planar Series-Fed Antenna Array for 77 GHz Automotive Radar  
*Jianjie Yan, Haiming Wang, Jiexi Yin, Chen Yu, Wei Hong* (China, Mainland)
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**ORAL Session: WP2B**

**Antennas**

Session Chairs: Raj Mittra and Xianling Liang

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- 16:00 - 16:30 Offset-fed Metal-only Reflectarray Antenna Designs (**invited**)  
*Raj Mittra, Shaileshachandra Pandey, Ravi Kumar Arya* (United States)
- 16:30 - 16:50 Compact Two-Layer Rotman Lens-Fed Circularly Polarized Antenna Array  
*Jianping Li, Weiren Zhu, Kun Wang, Xudong Bai, Guanshen Chenhu, Liang Liu, Yifeng Chen, Xianling Liang, Junping Geng, Ronghong Jin* (China, Mainland)
- 16:50 - 17:10 Linear to Circular Polarization Converter With Third Order Meta-Frequency Selective Surfaces  
*Fuheng Zhang, Guo-Min Yang, Ya-Qiu Jin* (China, Mainland)
- 17:10 - 17:30 Meta-mirrors with Negative Reflections  
*Rui Yang* (China, Mainland)
- 17:30 - 17:50 On Semi-Classical Optical Reponse of Metallic Silver and Silver Coated Silica Nanoparticles  
*Atta ur Rahman, Junping Geng, Sami Rehman, Ronghong Jin, Xianling Liang, Weiren Zhu* (Pakistan)

**2017-10-18 PM**

Room C

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**ORAL Session: WP1C**

**Antennas**

Session Chairs: Xianmin Zhang and Xiangyu Cao

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- 13:30 - 14:00 Grouping Plane Spiral Electromagnetic Waves for Structured RF Beams (**invited**)  
*Xianmin Zhang, Shilie Zheng* (China, Mainland)
- 14:00 - 14:20 A 77GHz Dielectric Resonator Antenna Array Using Dielectric Image Insular Guide  
*Xing Jiang, Quan Li, Xiaofeng Li, Xin Liao, Kun Wang* (China, Mainland)
- 14:20 - 14:40 Decoupled Range-Angle Beampattern Synthesis of Frequency Diverse Array Using Genetic Algorithm  
*Can Cui, Xiutiao Ye, Wentao Li, Xiaowei Shi* (China, Mainland)
- 14:40 - 15:00 Constraint Antenna Array Beamforming Based on Multi-objective Radial Basis Function Neural Network  
*Zhong-Hui Zhao, Hui-Ling Zhao, Ming-Xuan Zheng* (China, Mainland)
- 15:00 - 15:20 Antenna Design for 5G Communications  
*Peter W Futter, Jordi Soler* (United States)
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**ORAL Session: WP2C**

**Antennas**

Session Chairs: Wenquan Che and Sanming Hu

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- 16:00 - 16:30 Researches on Low-Profile Frequency-Selective Rasorbers (**invited**)  
*Wenquan Che, Ye Han, Xin Xiu, Hao Chen*(China, Mainland)
- 16:30 - 16:50 Design of Wideband MIMO Handset Antennas Using Characteristic Modes  
*Ke Li, Zhen-Guo Ban, Yan Shi, Long Li* (China, Mainland)
- 16:50 - 17:10 Bayesian Compressive Sensing for Target Detection and Parameter Estimation Using MIMO Radar  
*Jun Liu, Jianbo Wang, Zisheng Gao, Guang Hua* (China, Mainland)
- 17:10 - 17:30 E-Band Horn Antenna Array with Reduced Sidelobes  
*Liting Qin, Gaoming Xu, Yunlong Lu, Qingchun You, Jifu Huang* (China, Mainland)
- 17:30 - 17:50 Design of Amplitude Weighting Array with Multiple broad nulls using Immune Algorithm  
*Yufeng Wang, Fei Zhao, Jianhua Zhou* (China, Mainland)

**2017-10-18 PM**

Room D

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**ORAL Session: WP1D**

**Measurements**

Session Chairs: Jun Hu and Meisong Tong

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13:30 - 14:00 Fast Integral Equation Methods for Solving Scattering from Bodies of Revolution **(invited)**

*Yu-Ke Li, Jun Hu, Zaiping Nie, Qinghuo Liu* (China, Mainland)

14:00 - 14:20 Sheet Resistance Evaluation of Conductive Thin Films Using Microstrip Antenna

*Ming Ye, Lu Wang, Yongning He, Mojgan Daneshmand* (China, Mainland)

14:20 - 14:40 LoRa Propagation Testing in Soil for Wireless Underground Sensor Networks

*Xuefen Wan, Yi Yang, Jian Cui, Muhammad Sohail Sardar* (China, Mainland)

14:40 - 15:00 Far field reconstruction for reflector antenna using planar Fresnel field samples

*Yang Bai, Shun-You Qin* (China, Mainland)

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**ORAL Session: WP2D**

**Measurements**

Session Chairs: Hongsheng Chen and Wenbin Dou

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16:00 - 16:30 Reconfigurable Chiral Metamaterials based on Origami and kirigami **(invited)**

*Liqiao Jing, Zuojia Wang, Bin Zheng, Huaping Wang, Renuka Maturi, Hongsheng Chen* (China, Mainland)

16:30 - 17:00 Secondary Electron Emission Yield Measurement of Dielectric Materials for Satellite Antenna **(invited)**

*Tiancun Hu, Isabel Montero, Pablo Pérez-Villacastín, Wanzhao Cui, Meng Cao, Qi Wang* (China, Mainland)

17:00 - 17:20 A Four-band Wide-angle Metamaterial Absorber at Microwave Frequency

*Shixian Xu, Yuran Wang, Qizhang Zhou, Lin Cheng, Pengfei Cao, Jie Dou* (China, Mainland)

17:20 - 17:40 Study on Complex Permittivity Measurements at Super-High Temperatures Using a Novel MultiFunctional Ellipsoidal Cavity/Mirror

*Baojie Wang, Shuiling Fan, Long Wang, Wenbin Dou* (China, Mainland)

17:40 - 18:00 A Tunable Water-based Metamaterial Microwave Absorber

*Zixiang Han, Junming Zhao, Yijun Feng* (China, Mainland)

**2017-10-18 PM**

Room E

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**ORAL Session: WP1E**

**Electromagnetics**

Session Chairs: Wanchun Tang

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- 13:30 - 13:50 Three-Dimensional Bandpass Frequency Selective Surface with Quasi-Elliptic Responses  
*Zhengyong Yu, Jianping Zhu, Jinqun Ge, Cheng Wang, Cheng Huang, Wanchun Tang* (China, Mainland)
- 13:50 - 14:10 Planar Six-Petaled Artificial Magnetic Conductor with Miniaturized Size and Improved Bandwidth  
*Yingbo Wu, Jun Wang, Xiaopan Xia, Minquan Li* (China, Mainland)
- 14:10 - 14:30 Band Rejection Filter Based on a Composite Spoof Surface Plasmon Periodic Structure  
*Michael Chisala, Jing Zhou, Dong Yang, Lin Hai* (China, Mainland)
- 14:30 - 14:50 A Unit of Right-Angled Triangle Microstrip Artificial Transmission Line  
*Wen Huang, Jia Li, Honggang Hao, Bin Wang, Xi Guo* (China, Mainland)
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**ORAL Session: WP2E**

**Electromagnetics**

Session Chairs: Weixiang Jiang and Chang-Fa Yang

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- 16:00 - 16:30 High-performance H-plane lens antenna based on impedance-matching gradient-index metamaterials (**invited**)  
*Weixiang Jiang, Na Zhang, Wenxuan Tang, Huifeng Ma* (China, Mainland)
- 16:30 - 16:50 Radar target characteristic extraction and rebuilding of multi-target based on scattering center  
*Jianzhou Li, Chaoqun Fan, Liu Lu, Wenzhuo Wang, Xiaoyang Wang* (China, Mainland)
- 16:50 - 17:10 Investigation of Frequency Selective Transmission and Absorption Composites  
*Zheyipei Ma, Siyu Chen, Xinyu Hou* (China, Mainland)
- 17:10 - 17:30 A Novel Wide-Angle FSS for In-Band Antenna RCS Reduction  
*Tongxin Wei, Gaigai Zhang, Jun Ding, Chenjiang Guo* (China, Mainland)
- 17:30 - 17:50 Geometric Phase Coded Microwave Metasurface for Ultra-wideband Radar Cross Section Reduction  
*Li Cui, Ke Chen, Yijun Feng, Junming Zhao, Tian Jiang, Bo Zhu* (China, Mainland)

**2017-10-18 PM**

Room F

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**ORAL Session: WP1F**

**Microwaves, Millimeter Waves, and THz**

Session Chairs: Qiaowei Yuan and Shaoyong Zheng

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- 13:30 - 14:00 Matching Circuit with Ohmic Loss in Reactive Components for Wireless Power Transfer System (**invited**)  
*Qiaowei Yuan, Satoshi Suzuki, Qiang Chen (Japan)*
- 14:00 - 14:20 A 140 GHz Common-Base Cross-Coupled VCO with feedback inductor in InP HBT Technology  
*Rui Lin, Jun Liu, Guodong Su, Wenjie Jiang (China, Mainland)*
- 14:20 - 14:40 Synthesis and Implementation of Superluminal Circuits with Zero Group Delay  
*Ranjan Das, Qingfeng Zhang, Jayanta Mukherjee, Abhishek Kandwal (India)*
- 14:40 - 15:00 Broadband and Highly Efficient Class-J Power Amplifier with Compact Output Matching Network  
*Dan Xie, Chang Jiang You, Yuanwang Yang, Xueyong Zhu, Xuekun Du, Ke Han (China, Mainland)*
- 15:00 - 15:20 Bandpass Filtering Coupler based on Dual-mode Dielectric Resonators  
*Shaoyong Zheng, Yongxuan Zheng (China, Mainland)*
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**ORAL Session: WP2F**

**Microwaves, Millimeter Waves, and THz**

Session Chairs: Zhijun Zhang and Dongya Shen

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- 16:00 - 16:30 Millimeter and T-Hz antenna manufactured by MEMS Silicon Bulk Micromachining Technology (**invited**)  
*Zhijun Zhang (China, Mainland)*
- 16:30 - 16:50 A Cascaded Six Order Bandpass SIW Filter Using Electric and Magnetic Couplings Technology  
*Ming Dong, Dongya Shen, Chaojun Ma, Xiupu Zhang (China, Mainland)*
- 16:50 - 17:10 Rational modeling of narrow band antenna by vector fitting  
*Hansheng Wang, Zijian Cao, Yibang Jin, Lu Tang (China, Mainland)*
- 17:10 - 17:30 Design of a First-Order Microwave Differentiator using Modified Ladder Network  
*Shuping Zhang, Qingfeng Zhang (China, Mainland)*
- 17:30 - 17:50 An Ultra-wideband 3-dB Coupler Using Multilayer Substrate Integrated Stripline  
*Mei Xu, Wen Su, Bian Wu, Nan Wang (China, Mainland)*

**2017-10-18 PM**

Room G

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**ORAL Session: WP1G (Joint Session)**

**Special Session: Phased Array Design the Measurement Challenges**

**-Organizer: Yihong Qi**

Session Chairs: Yihong Qi

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- 13:30 - 13:50 Phased Array Over-the-Air Measurement Challenges (**invited**)  
*Yihong Qi, Wei Yu, Lie Liu, Jun Fan, Antonio Orlandi* (China, Mainland)
- 13:50 - 14:10 Improved Design of Broad Wall WSA for an Application of One-dimension Active Phased Array  
*Yuan Yuan, Xu Zhi* (China, Mainland)
- 14:10 - 14:30 An Accurate Mid-Field Calibration Technique for Large Phased Array Antenna  
*Ruoxin Li, Jianbo Zhnag, Chengguo Li, Yan Li, Buning Tian, Chunbang Wu* (China, Mainland)
- 14:30 - 14:50 Design of a Cooling System for High Density Integrated Phased Array Antenna Test  
*Jianbo Zhang, Ruoxin Li, Xiangyang Xu, Chunbang Wu* (China, Mainland)
- 14:50 - 15:10 Millimeter Wave Absorber for 5G Anechoic Chambers: Challenges and Opportunities  
*Lie Liu, Yongjian Zhu, Yihong Qi, Wei Yu, Fuhai Li, Panjun Gong, Qingchun Luo* (China, Mainland)
- 15:10 - 15:30 Design and Analysis of Low-Cost Single-Layer Broadband Reflectarray for SatCom  
*Kai Zhang* (China, Mainland)
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**ORAL Session: WP2G (Joint Session)**

**Special Session: Phased Array Design the Measurement Challenges**

**-Organizer: Yihong Qi**

Session Chairs: Yihong Qi

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- 16:00 - 16:20 Exploring OTA Testing for Massive MIMO Base Stations in Small Region  
*Zhaolong Qiao, Yongjun Xie, Zhengpeng Wang, Jungang Miao* (China, Mainland)
- 16:20 - 16:40 A Ka-band Sampling Antenna with Symmetric Radiation Pattern  
*Jiyu Wu, Yihong Qi, Wei Yu, Lie Liu* (China, Mainland)
- 16:40 - 17:00 A Novel Equivalent Element Antenna with Flat-Topped Pattern in the Applications of GEO Satellite PAA  
*Chengguo Li, Zhengjie Zhang, Ruoxin Li* (China, Mainland)
- 17:00 - 17:20 Optimized RF design key issues based on 5G OTA parameters  
*Guang Yang, Dapeng Wang, Jixiang Fu, Shao Zhe* (China, Mainland)
- 17:20 - 17:40 Complete Test Facilities for the Emulation of Multi-Antenna Wireless Channels  
*Yao Li, Xiao-Wei Zhu, Ling Tian, Nian-Zu Zhang* (China, Mainland)
- 17:40 - 18:00 Best Wide-beam Coverage Design for Planar Small-scale Array Antenna  
*Yan Li, Lin Li, Ruoxin Li, Buning Tian, Chunbang Wu* (China, Mainland)



**2017-10-18 PM**

Room H

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**ORAL Session: WP1H (Joint Session)**

**High Power Electromagnetics**

Session Chairs: Wensheng Zhao and Liang Zhou

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- 13:30 - 13:50 A Design of Tunable High-Impedance Surface (HIS) Based on Hybrid Metal-Graphene Structure (**invited**)  
*Wensheng Zhao, Dawei Wang, Gaofeng Wang, Wenyan Yin* (China, Mainland)
- 13:50 - 14:10 Electro-Thermal-Stress Analysis of RF Front-End Devices Breakdown under Intentional EMI (**invited**)  
*Liang Zhou, Xiang Chen, Junfa Mao* (China, Mainland)
- 14:10 - 14:30 Analysis of Radiation Fields of Little BWS for Biomedical Experiment  
*Xiangqin Zhu, Weiqing Chen, Jianguo Wang, Zaigao Chen* (China, Mainland)
- 14:30 - 14:50 Analysis of LNA under multi-pulses IEMI  
*Yong Li, Haiyan Xie, Chun Xuan, Jianguo Wang* (China, Mainland)
- 14:50 - 15:10 Probability Analysis of HEMP Coupling to Power Line  
*Hailiang Qiao, Haiyan Xie, Maoyu Zhang* (China, Mainland)
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**ORAL Session: WP2H (Joint Session)**

**Low Frequency and Power Electronics**

Session Chairs: Shilie Zheng and Donglin Meng

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- 16:00 - 16:20 Capacity analysis of plane spiral Orbital Angular Momentum based Multi-Input-Multi-Output (PSOAM-MIMO) system (**invited**)  
*Shilie Zheng, Xianmin Zhang* (China, Mainland)
- 16:20 - 16:40 Uncertainty of Validating Semi-Anechoic Chambers for Radiated Emission Measurement (**invited**)  
*Donglin Meng, Xiao Liu, Li Hong, Hao Ban* (China, Mainland)
- 16:40 - 17:00 PETT Oscillation Characteristics in Press Pack IGBTs  
*Xinling Tang, Yan Pan, Peng Zhang, Jinyuan Li, Rui Jin, Zhibin Zhao, Xiang Cui* (China, Mainland)
- 17:00 - 17:20 Conducted EMI Analysis of Double-side LCC Compensated WPT system  
*Tianluan Xiao, Wenjie Chen, Heyuan Qi, Zifeng Zhao, Yilin Sha* (China, Mainland)
- 17:20 - 17:40 Electrical Field Analysis of press-pack IGBTs  
*Pengyu Fu, Zhibin Zhao, Xiang Cui, Peng Zhang, Ronggang Han* (China, Mainland)

- P.1 A Compact Wideband  $\pm 45^\circ$  Dual-Polarized Antenna for LTE Base Stations Applications  
*Yaohui Zhang, Caixu Chen* (China, Mainland)
- P.2 High-isolation and High-gain Microstrip Antenna Based on Double-layer Radiation Patches  
*Xiaobo Liu, Jingsi Zhang, Anxue Zhang* (China, Mainland)
- P.3 A Wideband Magneto-Electric Dipole Antenna for Circularly Polarized Radiation  
*Rui Xu, Kai Kang, Yan Shi, Long Li* (China, Mainland)
- P.4 A Broadband Dual-Polarized Magneto-Electric Dipole Antenna for 2G/3G/LTE Applications  
*Wensheng Yu, Zhongxiang Zhang, Aoyun Zhang, Xianliang Wu* (China, Mainland)
- P.5 Broadband Circularly Polarized Antenna with Crossed Dipoles and Its Array for Satellite Communications  
*Baoming Li, Yufeng Yu, Yi Wang* (China, Mainland)
- P.6 A Novel Compact Broadband Circularly Polarized Antenna for GNSS  
*Aoyun Zhang, Zhongxiang Zhang, Wensheng Yu, Xianliang Wu* (China, Mainland)
- P.7 Novel Vivaldi Antenna Based on Balanced-unbalanced Feed  
*Xingdong Gao, Yingzeng Yin* (China, Mainland)
- P.8 Modified Ultra Wideband Hybrid Monopole Dielectric Resonator Antenna  
*Kui-Sheng Feng, Na Li, Si-Jia Li, Xiang-Yu Cao, Jun Gao, Tong Li* (China, Mainland)
- P.9 A Novel Metric Wave Ultra-Wideband Plasma Antenna Based on Monopole with Parasitic Elements  
*Feiyue Zhang, Bin Yuan, Chao Wang, Wenxuan Shi, Lei Yao* (China, Mainland)
- P.10 A Compact Broadband UHF RFID Tag Antenna for Metallic Objects  
*Lianghao Yuan, Wei Tang* (China, Mainland)
- P.11 A Novel Miniaturization Quasi Yagi-Uda Antenna  
*Lianghao Yuan, Wei Tang* (China, Mainland)
- P.12 Low-Profile Dipole Antenna with Parasitic Patches  
*Son Xuat Ta, Ngoc Dao Chien, Kam Eucharist Kedze, Ikmo Park* (South Korea)
- P.13 Design of Dual-band Miniaturized Slot loaded Monopole Antenna  
*Zhihong Zhang, Can Wang, Fushun Zhang* (China, Mainland)
- P.14 Ultra-wideband textile antenna integrated in three dimensional orthogonal woven fabrics  
*Cheng-Zhu Du, Yong-Zhi Wang, Fu-Hui Yang, Shun-Shi Zhong* (China, Mainland)
- P.15 A Semi-circular Shaped Monopole Antenna for SWB Applications  
*Jingwei Zhang, Rongguo Song, Chengguo Liu* (China, Mainland)
- P.16 A Modified Four-arm, Mode-2, Wide-beam Archimedean Spiral Antenna  
*Hao Wang, Huirong Ji, Junzhe Yu, Jianyin Cao, Yuqian Yang* (China, Mainland)
- P.17 A Printed Bowtie Dipole Broadband Directional Antenna  
*Yong Cheng, Bingqing Sheng* (China, Mainland)
- P.18 A Miniaturized Vivaldi Antenna with High Gain for Ultra-wideband Applications  
*Hao Wang, Shuang He, Zengxia Ding, Jianyin Cao, Yuqian Yang* (China, Mainland)

- P.19 A Wideband Dual-Polarized Conformal Phased Array Based on Tightly Coupled Dipoles  
*Qianshu Xiao, Shiwen Yang, Hongfei Bao, Yikai Chen, Shiwei Qu* (China, Mainland)
- P.20 A Novel UWB Antenna with Dual Notched Bands for WiMAX and WAVE Application  
*Shandong Wang, Minquan Li, Xu Pan, Chunchun Shen, Xuanxuan Li, Yongguang Zhou* (China, Mainland)
- P.21 A Novel Broadband Low-profile Base Station Antenna with AMC reflector  
*Wei Shi, Qing-Xin Chu* (China, Mainland)
- P.22 Ultra-wideband Non-reflecting Planar Spiral Slot Antenna using Post-wall Structure  
*Mei Yang, Yufu Li, Xiaoxing Yin, Xin Wang* (China, Mainland)
- P.23 An UWB MM-Wave Phased Array Antenna for 5G Handheld Devices Applications  
*Fei Wang, Liang Zhang, Xianliang Wu* (China, Mainland)
- P.24 Shaped Beam Synthesis Technique by Phase-only Controlling in Arrays Based on Multi-Population Genetic Algorithm  
*Kun Gao, Xin Li, Yao Zong, Jun Zhang* (China, Mainland)
- P.25 A Novel Transmitarray Antenna with Vias  
*Baokun Xi, Qianzhong Xue, Lan Bi, Yong Wang* (China, Mainland)
- P.26 Design of Multi-beam Transmitarray Antenna Using Alternating Projection Method  
*Baokun Xi, Qianzhong Xue, Lan Bi, Yong Wang* (China, Mainland)
- P.27 A Wideband Wide-Angle Scanning Vivaldi Antenna Array With Low Profile  
*Jiabo Liu, Shaoqiu Xiao, Yan Li, Bingzhong Wang* (China, Mainland)
- P.28 A W-band Power Divider Realized by Metallic Gap Waveguide Technology with Polarization Conversion  
*Jianyin Cao, Hao Wang, Yan Wang, Shuanglong Quan, Shanxiang Mou* (China, Mainland)
- P.29 Array Calibration with Sensor Gain and Phase Errors Using Invasive Weed Optimization Algorithm  
*Wencan Peng, Yuteng Gao, Yan Qu, Chenjiang Guo* (China, Mainland)
- P.30 Parametric Study on Patch Antenna Based on Silver Nanowires  
*Ran Zhang, Xiaoming Liu, Huijuan Chen, Hai Wang, Haiyang Yu, Junsheng Yu, Xiaodong Chen* (China, Mainland)
- P.31 Simulations and Measurement of 2D Metamaterial Aperture Antenna  
*Mengran Zhao, Shitao Zhu, Bangyu Wu, Anxue Zhang* (China, Mainland)
- P.32 A novel high-gain circularly polarized planar lens antenna based on the element rotation method  
*Zhi Li, Jianxun Su, Zengrui Li* (China, Mainland)
- P.33 Study on the Unusual Features of OAM Beams and Vortex Electromagnetic Fields  
*Kang Liu, Yongqiang Cheng, Yuliang Qin, Xiang Li, Yanwen Jiang* (China, Mainland)
- P.34 Analysis of Time-varying Magnetic Plasma by FDTD method  
*Yanghong Xi, Zhixiang Huang, Xianliang Wu, Guoda Xie* (China, Mainland)
- P.35 Multiband and Ultra- narrow Band Metamaterials Absorber  
*Renxia Ning, Jie Bao, Zheng Jiao* (China, Mainland)
- P.36 Six-Stage Split-Step FDTD Method Including Lumped Resistors and Its Stability Analysis  
*Chu-Bin Zhang, Yong-Dan Kong* (China, Mainland)
- P.37 Observation and Prediction on the Characteristic Modes' Variation with Frequency  
*Shaode Huang, Jin Pan* (China, Mainland)
- P.38 Analysis of Diurnal Variation on Long-wave Ground Wave Propagation Delay  
*Hongjuan Yang, Lili Wang, Rurong Pu, Xiaoli Xi* (China, Mainland)
- P.39 Uniformity of Root-mean-square Delay Spread in Reverberation Chamber with Different Loadings  
*Lifeng Wang, Xiaotao Guo, Zhao He, Yichi Zhang, Zilong Zhang* (China, Mainland)

- P.40 Simulation of 38 GHz Millimeter-Wave Propagation Characteristics in Indoor LOS and NLOS Environment  
*Mengxue Wang, Yuanjian Liu, Shuangde Li, Xiaojun Zhang* (China, Mainland)
- P.41 Additive Phase Noise Suppression of Direct Modulation Analog Optical Links  
*Hui Gao, Ye Deng, Zhipeng Zhou, Hui Yang, Yongchuan Xiao* (China, Mainland)
- P.42 Study on the RMS and Path Loss of 60GHz Millimeter-wave in Typical Indoor Environment  
*Zhong Sheng, Yuanjian Liu, Zhipeng Chen, Shuangde Li, Xiaojun Zhang* (China, Mainland)
- P.43 Simulation and Analysis of Millimeter-wave Propagation Characteristics in the Office Environment  
*Xiang Zhu, YuanJian Liu, Shuangde Li, Zhipeng Chen* (China, Mainland)
- P.44 A Novel UWB Antenna with Quintuple Band-Notched Characteristics  
*Zhenya Li, Xiaosong Zhu, Jianhua Zhang* (China, Mainland)
- P.45 Design of an Ultra-Wideband Compact 90-Degree 3dB Coupler for Image-Rejection Up-Converter  
*Yan Chen, Jianyi Zhou, Zhiqiang Yu, Youjin Yin, Guangyao Peng* (China, Mainland)
- P.46 Ultra-broadband Reconfigurable Linear-to-circular Polarization Converter Based on Metasurface in Terahertz Frequency  
*Lei Wang, Yannan Jiang, Jiao Wang, Weiping Cao, Xi Gao, Xinhua Yu* (China, Mainland)
- P.47 A New Method on Shadow and Layover Detection of InSAR  
*Xiang-Yu Du, Qi Yang, Bin Cai, Dian-nong Liang* (China, Mainland)
- P.48 A High Speed 3D Radar Imaging System Design Based on FMCW and MIMO Array  
*Zhen Yan, Wei Liu, Qinggong Chang, Dahai Hu, Yahai Wang* (China, Mainland)
- P.49 Design of the High Performance RF Transmitter for Wideband System  
*Daxu Zhang, Jianyi Zhou, Hualei Cai, Bo Lin* (China, Mainland)
- P.50 Design of a W-Band Integrated Antenna Based on the Silicon Bulk MEMS Technology  
*Yan Li, Lei Wang, Juan Liu, Yan-Xin Yin* (China, Mainland)
- P.51 Improving BP Efficiency by the Manner of Offline Projection  
*Jingkun Gao, Bin Deng, Yuliang Qin, Hongqiang Wang, Xiang Li* (China, Mainland)
- P.52 Rapid Design of SIW filter bank based on waveguide design software  
*Zhen-Guo Hu, Peng Chen, Xu-Tao Yu* (China, Mainland)
- P.53 Electromagnetic Parameters Measurement of Magnetic Thin Film Materials  
*Shu Zhou, Hu Zheng, En Li, Chao Zhao* (China, Mainland)
- P.54 Dual-polarization Tunable Electromagnetic Absorber  
*Peng Mei, Yaodong Zhao, Kun Zheng, Xianqi Lin* (China, Mainland)
- P.55 Wideband Radar System Distortion Compensation using Spherical Satellite Echo  
*Pengjiang Hu, Panhe Hu, Shiyong Xu, Zengping Chen* (China, Mainland)
- P.56 Research on the RCS reduction of airborne phased array based on the 2D distribution of Bragg lobes  
*Yun Liu, Xugang Wang, Jing Shen* (China, Mainland)
- P.57 Investigation on Electromagnetic Scattering from an Airfoil Object above Rough Surface  
*Juan Li, Zelin Ren, Lixin Guo, Ke Li, Xiao Meng* (China, Mainland)
- P.58 Applying Perfectly Absorbing Thin Screen to the 3D Parabolic Equation Method  
*Xiaowei Guan, Lixin Guo, Yajiao Wang, Qingliang Li* (China, Mainland)
- P.59 A Broadband Radiator and Absorber Based on Tightly Coupled Array  
*Fengkai Xu, Shaoqiu Xiao, Yan Li* (China, Mainland)
- P.60 Broadband and wide-angle RCS reduction based on an optimal-arranged metasurface  
*Tong Han, Xiangyu Cao, Jun Gao, Yanlong Zhao* (China, Mainland)

- P.61 A Novel Design of Vivaldi Antenna for Low RCS  
*Jun Fan, Zaiping Nie* (China, Mainland)
- P.62 RCS Reduction of Steps by Using Phase Cancellation  
*Zhenlin Zou, Zaiping Nie* (China, Mainland)
- P.63 The diffusion conformal metasurface for wide-band RCS reduction of cylindrical target  
*Mingyang Wang, Hui Zhang, Guowen Lu, Jianxun Su, Zengrui Li* (China, Mainland)
- P.64 Dual-band checkerboard plasma electromagnetic surface for Radar Cross Section Reduction  
*Qiang Xu, Zhifeng Li, jinjun Mo* (China, Mainland)
- P.65 A Wideband Tightly Coupled Phased Array with Reduced Scattering Characteristics  
*Hongfei Bao, Shiwen Yang, Qianshu Xiao, Yikai Chen, Shiwei Qu* (China, Mainland)
- P.66 Metasurface Based on Square-ring For Ultra-wideband RCS Reduction  
*Yueyang Cui, Jianxun Su, Zengrui Li* (China, Mainland)
- P.67 Research on Antenna RCS Reduction Technique Based on EBG Structure  
*Keyu Yi, Chuanfang Zhang, Shuaike Huo, Haipeng Liu, Yannan Zhang* (China, Mainland)
- P.68 2-Bit Programmable Digital Metasurface for Controlling Electromagnetic wave  
*Xiaohong Zhang, Hui Zhang, Jianxun Su, Zengrui Li* (China, Mainland)
- P.69 Through-the-Wall Imaging Based on Phase Shift Migration and NUFFT  
*Peng Zhang, Xin Wen, Peng Fei, Weihua Guo, Shengkang Zhang, Keming Feng* (China, Mainland)
- P.70 An Effective Preconditioner for the IE-NDDM-MLFMA Method for Analyzing EM Scattering from Electrically Large PEC Objects  
*Kai-Lai Zheng, Peng Chu, Wei-Bin Kong, Feng Xu* (China, Mainland)
- P.71 An Efficient FGG-FG-FFT with Adaptive Cross Approximation for Solving Electromagnetic Scattering Problems  
*Weibin Kong, Feng Zhou, Kailai Zheng, Jiaye Xie, Rugang Wang* (China, Mainland)
- P.72 Design and Experiment of a Miniaturized High-Efficiency Printed Rectifier  
*Lingfeng Li, Xuexia Yang, Erjia Liu, Geliang Zhu* (China, Mainland)
- P.73 A 90-120 GHz Driver Amplifier with 70nm InP PHEMT  
*Jun Liu, Weihua Yu, Xin Lv* (China, Mainland)
- P.74 5G compatible front-haul transmission of OFDM-MIMO signal over multicore fibers  
*Li-Yan Zhu, Ming Tang, Xiao-Chuan Wang* (China, Mainland)
- P.75 A Compact Wideband Single-Ridge T-junction Waveguide Power Divider  
*Yang You, Yunlong Lu, Gaoming Xu, Qingchun You, Jifu Huang* (China, Mainland)
- P.76 Design and Implementation of A Ka-Band MMIC Driver Amplifier and Module  
*Jianyu Ma, Debin Hou* (China, Mainland)

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Room A

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**ORAL Session: TA1A**

**Special Session: Current Trends and Advances in Computational Inverse Scattering - Theory, Techniques, and Applications- Organizers: Andrea MASSA, Maokun LI, and Marco SALUCCI**

Session Chairs: Andrea Massa, Maokun LI and Marco SALUCCI

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- 08:00 - 08:20 Accurate Boundary Extraction Method by Range Points Migration for Microwave Non-destructive Monitoring  
*Shouhei Kidera, Shuto Takahashi* (Japan)
- 08:20 - 08:40 A Volume Integral Equation Method for MRI-Based Electrical Properties Tomography  
*Ronghan Hong, Shengnan Li, Jianhua Zhang, Youyu Zhang, Na Liu, Zhiru Yu, Qinghuo Liu* (China, Mainland)
- 08:40 - 09:00 Compressive-Processing Microwave Imaging  
*Nicola Anselmi, Lorenzo Poli, Giacomo Oliveri, Andrea Massa* (Italy)
- 09:00 - 09:20 Advances in Multi-Resolution Approaches for Computational Inverse Scattering – On the Integration of Sparse Retrieval within the Multi-Resolution Inversion  
*Lorenzo Poli, Giacomo Oliveri, Andrea Massa* (Italy)
- 09:20 - 09:40 SFCW Linear Sparse Array 2D Imaging Based on MV Beamformer with Wiener-poster Filter  
*Weike Feng, Motoyuki Sato* (Japan)
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**ORAL Session: TA2A**

**Special Session: Current Trends and Advances in Computational Inverse Scattering - Theory, Techniques, and Applications - Organizers: Andrea MASSA, Maokun LI, and Marco SALUCCI**

Session Chairs: Andrea Massa, Maokun LI and Marco SALUCCI

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- 10:20 - 10:40 A comparison of the MR-TSOM and DBIM in reconstructing 2D model of human breast  
*Kuiwen Xu, Xiuzhu Ye* (China, Mainland)
- 10:40 - 11:00 Reconstruction of Dielectric Objects Using Diffraction Tomography of Ultrasonic Wave  
*Jian Zhang, Chunxia Yang, Meisong Tong* (China, Mainland)
- 11:00 - 11:20 Device-free Human Monitoring using Channel State Information  
*Federico Viani, Alessandro Polo, Marco Donald Migliore* (Italy)
- 11:20 - 11:40 Application of the Multiplicative Regularization Scheme to Electrical Impedance Tomography  
*Ke Zhang, Maokun Li, Fan Yang, Shenheng Xu, Aria Abubakar* (China, Mainland)

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Room B

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**ORAL Session: TA1B**

**Antennas**

Session Chairs: Lixin Guo and Xiaoxing Yin

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- 08:00 - 08:30 EM Scattering of Electrically Large Target above Sea Surface with SDFSM-SBR Method (**invited**)  
*Tiantian Feng, Lixin Guo (China, Mainland)*
- 08:30 - 08:50 A Printed Magneto-Electric Dipole Based on Substrate Integrated Gap Waveguide  
*Chaojun Ma, Ming Dong, Dongya Shen (China, Mainland)*
- 08:50 - 09:10 L-Shape Square Slot Circularly Polarized Antenna With Unidirectional Radiation Pattern  
*Rui Xu, Jian-Ying Li, Jie Liu, Du-Juan Wei (China, Mainland)*
- 09:10 - 09:30 Multiband PIFA Antenna for UHF RFID Tag  
*Jui-Han Lu, Feng-Chuan Tsai (Taiwan)*
- 09:30 - 09:50 A Low-Profile Dual-Band Antenna Loaded with the AMC Surface  
*Kedi Zhang, Xiangyu Zhou, Zichun Wei, Huiqing Zhai (China, Mainland)*
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**ORAL Session: TA2B**

**Antennas**

Session Chairs: Sungtek Kahng and Huiqing Zhai

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- 10:20 - 10:50 Hybrid MIMO Antennas for Future 5G Smartphone Applications (**invited**)  
*Sungtek Kahng, Muhammad Kamran Khattak, Muhammad Salman Khattak, Abdul Rehman Khan, Changhyung Lee, Dajung Han, Heejun Park (South Korea)*
- 10:50 - 11:10 Analysis of SIW 2X2 Slot Array Antennas Excited by TE<sub>20</sub> mode  
*Junlin Zhan, Feng Xu, Zhongwei Yang (China, Mainland)*
- 11:10 - 11:30 A Half-Space Covered Antenna for Air-Ground Communication  
*Guanshen Chenhu, Junping Geng, Han Zhou, Jianping Li, Liang Liu, Yifeng Chen, Yuliang Liang, Xianling Liang, Weiren Zhu, Ronghong Jin (China, Mainland)*
- 11:30 - 11:50 A High-Gain Magneto-Electric Dipole Antenna  
*Hong Yuan, Xingxing Li, Xinfang Shuai, Wenping Ren, Taoyan Zhang, Dongya Shen (China, Mainland)*
- 11:50 - 12:10 Epsilon-Negative Transmission Line-Based Microstrip Antenna for Conformal Applications  
*Wangwang Han, Haobin Zhang, Liang Wang (China, Mainland)*

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Room C

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**ORAL Session: TA1C**

**Antennas**

Session Chairs: Kwai-Man Luk and Dazhi Piao

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- 08:00 - 08:30 The open Resonator Antennas (**invited**)  
*Kwai-Man Luk* (Hong Kong)
- 08:30 - 08:50 A High-Gain Compact Size Four-Port MIMO Antenna Array Working at 28 GHz  
*Hailong Yu, Dazhi Piao* (China, Mainland)
- 08:50 - 09:10 Low-Profile End-fire Phased Array with Omni-Directional Scanning Characteristics  
*Fang Wang, Shiwen Yang, Yikai Chen, Shiwei Qu* (China, Mainland)
- 09:10 - 09:30 Design of a Millimeter Wave Microstrip Array Antenna for 5G  
*Yuguo Lu, Hongfu Meng, Wenbin Dou* (China, Mainland)

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**ORAL Session: TA2C**

**Antennas**

Session Chairs: Yi Chen and Yong-Chang Jiao

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- 10:20 - 10:50 Antenna Technology Innovation for Next Generation Microwave/Millimeter Wave Transmission (**invited**)  
*Yi Chen* (China, Mainland)
- 10:50 - 11:10 A New Compact Dual-Band CP Antenna for GPS and DSRC Applications  
*You-Zhi Hu, Bin-Jie Hu, Hong-Lin Zhang* (China, Mainland)
- 11:10 - 11:30 A Broadband  $\pm 45^\circ$  Dual-Polarized Antenna for Base Station Applications  
*Yi He, Gengming Wei, Lin Yang, Xi Li* (China, Mainland)
- 11:30 - 11:50 A Gain-enhanced Wideband Dual-polarized Antenna Based on SRRs and CSRRs  
*Yuhui Ren, Xue Liao, Handong Wu, Baojian Gao, Zhouhu Deng, Fuwei Wang, Ke Li, Jinping Niu* (China, Mainland)
- 11:50 - 12:10 Parasitic Ring Loaded Wideband Circularly Polarized Cavity-backed Slot Antenna  
*Yi-Xuan Zhang, Yong-Chang Jiao, Huan Zhang* (China, Mainland)



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Room D

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**ORAL Session: TA1D**

**Measurements**

Session Chairs: Haiwen Liu and Houjun Sun

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- 08:00 - 08:30 Design of Fourth-Order Dual-Band Superconducting Filter Using Dual-Mode Resonator (**invited**)  
*Haiwen Liu* (China, Mainland)
- 08:30 - 08:50 A Wideband Transparent Absorber for Microwave and Millimeter Wave Application  
*Baoyue Xue, Yue Hu, Bian Wu, Liang Chen, Wei Zhang* (China, Mainland)
- 08:50 - 09:10 Design of A Band-Pass FSS with Steep-Rejection Stopband by Equivalent Circuit Method  
*Yuan Xu, Mang He, Chuanfang Zhang, Houjun Sun* (China, Mainland)
- 09:10 - 09:30 Ultra-Thin Broadband Microwave Absorber Using Resistive Sheets  
*Shicheng Liu, Haiming Wang* (China, Mainland)
- 09:30 - 09:50 Tunable Ultra-thin P-band Absorber Based on Permeability-near-zero Metamaterial  
*Hua Huang, Wenjun Wang, Junming Zhao, Tian Jiang, Bo Zhu, Yijun Feng* (China, Mainland)
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**ORAL Session: TA2D**

**Measurements**

Session Chairs: Qingsheng Zeng and Yongjin Zhou

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- 10:20 - 10:50 Performance Analysis of Propagation Prediction Software Based on Physical Optics (**invited**)  
*Qingsheng Zeng* (China, Mainland)
- 10:50 - 11:10 Planar Phaseless Near-Field Antenna Measurements using Interpolation Algorithm and Source Equivalence Theorem  
*Yuan Wang, Junping Shang, Yanchun Zuo, Kang Song* (China, Mainland)
- 11:10 - 11:30 A Compact Double-Negative Metamaterial for Midrange Wireless Power Transfer  
*Huifen Huang, Shuainan Li* (China, Mainland)
- 11:30 - 11:50 Designer Localized Surface Plasmons on Corrugated Ring with a Slit  
*Chao Zhang, Liu Yang, Qianxun Xiao, Yongjin Zhou* (China, Mainland)
- 11:50 - 12:10 Tunable Spoof Localized Surface Plasmons on Metallic Spiral Structures  
*Ronglin Shao, Jing Cai, Yongjin Zhou* (China, Mainland)

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Room E

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**ORAL Session: TA1E**  
**Electromagnetics**

Session Chairs: Douglas H Werner and Xiaowei Zhu

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- 08:00 - 08:30 Inverse Design of Meta-devices: Optimization Strategies and Application Examples **(invited)**  
*Douglas H Werner, Pingjuan L Werner (United States)*
- 08:30 - 08:50 Electromagnetic Scattering Characteristics of the Plasma Sheath Around Re-entry Hypersonic Vehicles  
*Run-hui Wu, Jia-Qi Liu, Gang Meng, Xin Liu, Ai-Min Ren, Xia Ai, Song Chai, Ju-Yan Zhao, Ya-Nan Li, Ming-Liang Wang (China, Mainland)*
- 08:50 - 09:10 Research on the EMP coupling characteristic of typical cable penetration holes on the vessel  
*Qi-Feng Liu, Jing-Wei Liu (China, Mainland)*
- 09:10 - 09:30 Analysis of Measured Sea clutter Power Distribution based on Goodness-of-Fit Tests  
*Xiaoyan Du, Peipei Wei, Guojun Tian (China, Mainland)*
- 09:30 - 09:50 Dual-polarization Absorptive/Transmissive Frequency-selective Surface Utilizing Composite Metamaterial  
*Fanfan Xu, Wenjun Wang, Tian Jiang, Junming Zhao, Bo Zhu, Yijun Feng (China, Mainland)*
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**ORAL Session: TA2E**  
**Electromagnetics**

Session Chairs: Kimberley W. Eccleston and Zhang-Cheng Hao

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- 10:20 - 10:50 Fully-Printed S-band SRR/Wire NRI Lens with Reduced Wire Density **(invited)**  
*Kimberley W. Eccleston, Ian G. Platt, Adrian E.-C. Tan, Ian M. Woodhead (New Zealand)*
- 10:50 - 11:10 Electromagnetic Scattering of Ground surface Combining with Man-made Target: Modeling and Simulation  
*Peng Guo, Chufeng Hu, Lifang Guo, Nanjing Li (China, Mainland)*
- 11:10 - 11:30 Optimal cloak of anisotropic spheres  
*Lin Zhang, Qi Yang, Yan Shi, Long Li (China, Mainland)*
- 11:30 - 11:50 The scattering characteristic mapping relation of similar targets  
*Jianzhou Li, Lu Liu, Wenzhuo Wang, Chaoqun Fan, Xiaoyang Wang (China, Mainland)*
- 11:50 - 12:10 Accuracy Comparison of ASED Basis Function and Characteristic Basis Function for Scattering Analysis of finite Periodic Arrays  
*Ping Du, Cheng Wang (China, Mainland)*

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Room F

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**ORAL Session: TA1F**

**VMicrowaves, Millimeter Waves, and THz**

Session Chairs: Qun Wu and Xuehui Guan

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- 08:00 - 08:30 An Efficient Planar Meta-lens as Converged Vortex Beam Generator in Microwave Region (**invited**)  
*Qun Wu, Yueyi Yuan, Xumin Ding, Kuang Zhang* (China, Mainland)
- 08:30 - 08:50 A Stacked Dual-mode Bandpass Filter with Circular Cavity  
*Ke-Qing Zhang, Tian-Qi Hao, Zhi-Hang Wu, Zheng-Bin Wang* (China, Mainland)
- 08:50 - 09:10 Design of a Compact Diplexer Using Microstrip and Slotline Dual-Mode Resonators  
*Baoping Ren, Zhewang Ma, Haiwen Liu, Masataka Ohira, Pin Wen, Xiaolong Wang, Xuehui Guan* (Japan)
- 09:10 - 09:30 Lumped-Element Absorptive Bandstop Filter based on Dual Composite Right/Left Handed Transmission Line  
*Cai Liu, Meiling Li, Qi Zhu* (China, Mainland)
- 09:30 - 09:50 An improved CPW to CPS Balun for wideband applications  
*Fusheng Wang, Shufang Liu, Jingya Zhang, Gaoling Zhang, Xiaowei Shi* (China, Mainland)
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**ORAL Session: TA2F**

**Microwaves, Millimeter Waves, and THz**

Session Chairs: Dongya Shen and Weidong Hu

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- 10:20 - 10:50 Advances on the Substrate Integrated Gap Waveguide (**invited**)  
*Dongya Shen, Ming Dong, Chaojun Ma* (China, Mainland)
- 10:50 - 11:10 A Novel Quad-Mode Resonator and Filter  
*Lu Qian, Qing-Xin Chu* (China, Mainland)
- 11:10 - 11:30 A novel band-pass filter based on spoof localized surface plasmons  
*Jing Cai, Yongjin Zhou, Ronglin Shao* (China, Mainland)
- 11:30 - 11:50 The 220GHz Terahertz Radar System for Atmosphere Observation  
*Weidong Hu, Yameng Li, Shi Chen, Guicai Cao, P. Ligthart Leo* (China, Mainland)
- 11:50 - 12:10 130 GHz On-Chip Dielectric Resonator Antenna Array in CMOS Technology  
*Debin Hou, Wei Hong, Jixin Chen, Zhe Song, Pinpin Yan, Yongzhong Xiong* (China, Mainland)

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**Room G**

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**ORAL Session: TA1G (Joint Session)**  
**Low Frequency and Power Electronics**

Session Chairs: Lei Zhou and Qingfeng Zhang

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- 08:00 - 08:20 Discussion of Humidity's Influence on Electrostatic Discharge (**invited**)  
*Lei Zhou, Wei Yan* (China, Mainland)
- 08:20 - 08:40 Coupling Matrix Synthesis Techniques for Non-Filter Applications (**invited**)  
*Qingfeng Zhang, Ranjan Das, Yifan Chen* (China, Mainland)
- 08:40 - 09:00 Study on the Influence of Frequency Splitting of a WPT System on High Frequency Conducted EMI  
*Heyuan Qi, Wenjie Chen, Tianluan Xiao, Yaqiang Han, Yilin Sha* (China, Mainland)
- 09:00 - 09:20 The Number of Chained  $\pi$ -type circuits for Dynamic Analogy of Half-wavelength Transmission Line Considering Short-circuit Fault  
*Yurong Li, Chongqing Jiao, Bei Wang* (China, Mainland)
- 09:20 - 09:40 Modelling the Cauer Thermal Network for Press Pack IGBTs  
*Jinyuan Li, Erping Deng, Zhibin Zhao, Peng Zhang, Yaosheng Li* (China, Mainland)
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**ORAL Session: TA2G (Joint Session)**  
**System-Level EMC and Protection & Automotive, Railway and Naval EMC**

Session Chairs: Gaopeng Lu and Huapeng Zhao

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- 10:20 - 10:40 Application of sensitive magnetic sensor in the measurement of rocket-triggered lightning (**invited**)  
*Gaopeng Lu* (China, Mainland)
- 10:40 - 11:00 Fast Wide-Band Electromagnetic Analysis Based on Adaptive and Extrapolatory Methods (**invited**)  
*Huapeng Zhao, Zhizhang Chen, Ying Zhang, Jun Hu* (China, Mainland)
- 11:00 - 11:20 Application of Resistive Graphene Lid for Suppressing Radiation Emission in WB-BGA Package  
*Ping Cheng, Xiaoli Yang, Le Zhang, Hang Jin, Yongsheng Li, Bin Li, Erping Li* (China, Mainland)
- 11:20 - 11:40 The Design of 110kV Substation Grounding Grid with high resistivity soil  
*Mohammed Abdalldaim, Ping Wang, Lin Li* (China, Mainland)
- 11:40 - 12:00 Automotive Antenna Placement and EMC Analysis Combining Measurement with Simulation  
*Peter WFutter, Lucia Scialacqua, Lars JFoged, Jordi Soler* (United States)

**2017-10-19 AM**

Room H

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**ORAL Session: TA1H (Joint Session)**  
**Low Frequency and Power Electronics**

Session Chairs: Nan Wang and Tao Su

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- 08:00 - 08:20 The TEM Normalized Mean Branches Number (NMBN) of the CG Lightning Near the Ground by the Coaxial Unification Fractal Model (CUFM) (**invited**)  
*Nan Wang* (China, Mainland)
- 08:20 - 08:40 Modeling and Analysis on Radiation of On-Chip Power Ring (**invited**)  
*Yibin Wang, Cexing Wang, Tao Su* (China, Mainland)
- 08:40 - 09:00 Suppression of Common-mode Voltage under Different modes of Induction Machine Based on Improved Predictive Torque Control Method  
*Xiliang Chen, Wenjie Chen* (China, Mainland)
- 09:00 - 09:20 Study on The Issue of Electric Field Concentration in Submodule of Press Pack IGBTs  
*Jinyuan Li, Junda Sun, Zhibin Zhao, Peng Zhang, Nanwei Guo* (China, Mainland)
- 09:20 - 09:40 Characteristics of PETT Oscillation and Estimation of Frequency  
*Xinling Tang, Rui Jin, Chouwei Ni, Yan Pan, Zhibin Zhao, Xiang Cui* (China, Mainland)
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**ORAL Session: TA2H (Joint Session)**  
**IC and Semiconductor EMC**

Session Chairs: Qiang Zhang and Haiyan Xie

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- 10:20 - 10:40 The progress in FSS radomes design (**invited**)  
*Qiang Zhang* (China, Mainland)
- 10:40 - 11:00 Hybrid Method and Its Application for HPEMP Effects on Electronic Systems (**invited**)  
*Haiyan Xie* (China, Mainland)
- 11:00 - 11:20 Chaotic spread spectrum for EMI reduction in DC-DC converter  
*Hongge Li, Weiye Cai, Sidi Gong* (China, Mainland)
- 11:20 - 11:40 Low-Voltage Transformer-Based LNA with WuRx Switch and Chip Antenna with Body Analysis  
*Wen-Cheng Lai* (Taiwan)
- 11:40 - 12:00 Modeling and Simulation of SiC MOSFET Turn-off Oscillation under Influence of Parasitic Parameter  
*Junji Ke, Zhibin Zhao, Zongkui Xie, Changjun Wei, Peng Sun* (China, Mainland)

- P.1 RCS Reduction Study of THz Microstrip Antenna Based on ITO Absorbing Structure  
*Yonglong Li, Limei Qi, Yuan Yao, Xiaoming Liu, Zhijiao Chen, Junsheng Yu, Xiaodong Chen* (China, Mainland)
- P.2 Compressed Sensing Imaging Based on High Q Metamaterial Aperture Element  
*Shun-Cheng Tian, Long Li* (China, Mainland)
- P.3 A High-Gain Lens Antenna Based on Novel Left-Handed Metamaterial  
*Jian Yang, Feng Xu, Wenjian Chen, Lewei Cao* (China, Mainland)
- P.4 A Wideband Frequency Selective Surface with Compound Ring Structure  
*Zisheng Gao, Jianbo Wang, Jun Liu, Guang Hua* (China, Mainland)
- P.5 Design of High-Gain Lens Antenna for 5G Application  
*Bo He, Yong-Chang Jiao, Huan He* (China, Mainland)
- P.6 Dual-band Frequency-Reconfigurable Antenna With Meandered-Line-Based Metasurfaces  
*Huan Zhang, Yongchang Jiao, Ruiqi Wang* (China, Mainland)
- P.7 Bandwidth Reconfigurable Antenna with Three Step-Shaped Slots  
*Linglong Meng, Weimin Wang, Jinchun Gao, Yuanan Liu* (China, Mainland)
- P.8 Ultra-Low Sidelobe and High Gain Millimeter Wave Microstrip Array Antenna  
*Wen Chen, Yuan Yao, Junsheng Yu, Xiaoming Liu, Limei Qi, Zhijiao Chen, Xiaodong Chen* (China, Mainland)
- P.9 Design of Short Backfire Antenna Arrays with High Gain and Low Sidelobe Level  
*Gaonan Zhou, Qiuyan Liang, Baohua Sun* (China, Mainland)
- P.10 Design of a Rotman Lens Based on Genetic Algorithm  
*Qiuyan Liang, Gaonan Zhou, Baohua Sun* (China, Mainland)
- P.11 Design of Unequal Power Divider With High Dividing Ratio And Tunable Operating Frequency  
*Xiutiao Ye, Can Cui, Wentao Li, Xiaowei Shi* (China, Mainland)
- P.12 Low Profile Broadband Dual Polarized Patch Sub-Array with High Isolation  
*Hong-Wei Yu, Yong-Chang Jiao* (China, Mainland)
- P.13 Wideband Patch Antenna for Q Band Application  
*Zheng Gan, Zhi-Hong Tu, Ze-Ming Xie* (China, Mainland)
- P.14 Large-space Wide Band Phased Array Antenna  
*Q.C. Zhang, X.L. Zhang, Q.H. Lai* (China, Mainland)
- P.15 Synthesis of Nonuniform Sparse Linear Array Antenna using Whale Optimization Algorithm  
*Pengliang Yuan, Chenjiang Guo, Jun Ding, Yan Qu* (China, Mainland)
- P.16 A Filtering Antenna Array based on Multimode Resonator  
*Jiaying Xue, Zeming Xie* (China, Mainland)
- P.17 A Single-Layer Broadband Dual-Band Linearly Polarized Reflectarray  
*Qi Zheng, Chenjiang Guo, Yan Qu, Jun Ding* (China, Mainland)
- P.18 Broadband MIMO Antenna Using the Theory of Characteristic Modes  
*Shengwen Mao, Xiwang Dai, Xiaohong Zhang, Huayan Jin, Guoqing Luo* (China, Mainland)
- P.19 Wideband Millimeter Wave Circularly Polarized Substrate Integrated Waveguide End-Fire Antenna Array  
*Yang Cai, Yingsong Zhang, Liu Yang, Yufan Cao, Zuping Qian* (China, Mainland)

- P.20 A K-band Series-Fed Microstrip Array Antenna with Low Sidelobe for Anticollision Radar Application  
*Yulin Chang, Yongchang Jiao, Li Zhang, Guantao Chen, Xiaohui Qiu* (China, Mainland)
- P.21 A 2-D Multi-beam Antenna with Full Azimuth Coverage  
*Junxiao Wang, Feng Yang, Kuixi Yan, Ximeng Wang* (China, Mainland)
- P.22 A Dual-Circularly-Polarized Antenna Array for Satcom-On-The-Move System  
*Zhenxing Liu, Lei Ji, Peiyun Geng, Qiulin Huang* (China, Mainland)
- P.23 A Compact UWB MIMO Antenna for 4.5G/5G Wearable Device Applications  
*Yixin Li, Huafeng Shen, Huanqing Zou, Hongwei Wang, Guangli Yang* (China, Mainland)
- P.24 Design of  $6 \times 6$  Dual-Band MIMO Antenna Array for 4.5G/5G Smartphone Applications  
*Huanqing Zou, Yixin Li, Huafeng Shen, Hongwei Wang, Guangli Yang* (China, Mainland)
- P.25  $2 \times 8$  Dual-Polarized DRA Array With Low Cross-Polarization and High Isolation  
*Ru-Ying Sun, Shao-Hua Shi, Rong-Cang Han* (China, Mainland)
- P.26 Circularly Polarized Slotted Waveguide Array Based on Multi-Cascaded Ridged Waveguide Power Divider  
*Cheng Yang, Hong-Tao Zhang, Wei Wang* (China, Mainland)
- P.27 A Novel Reflective Metasurface Generating Circular Polarized Orbital Angular Momentum  
*Guantao Chen, Yongchang Jiao, Gang Zhao, Yu-Lin Chang* (China, Mainland)
- P.28 A multi-cluster Geometry-based Stochastic Model for 5G Massive MIMO Channels in NLOS environment  
*Yuyun Hu, Cheng Chen, Ting Fang, Menglu Qiao* (China, Mainland)
- P.29 A Compact K-Band Planar Antenna with High Gain and Narrow Beam  
*Ximeng Wang, En Li, Junxiao Wang, Kuixi Yan, Weizhi Sun* (China, Mainland)
- P.30 Wideband Microstrip MIMO Antenna for Millimeter-Wave Applications  
*Jia-Tian Weng, Qing-Xin Chu* (China, Mainland)
- P.31 S-band Dual Circularly Polarized Microstrip Patch Antenna Array for Satellite Communication  
*Zhaoming Zhang, Tianling Zhang, Chao Guo, Xiaolin Hou, Zehong Yan* (China, Mainland)
- P.32 A novel method for weak target detection under strong jamming  
*Min Guo, Wenzheng Wu, Zhanshan Sun, Yunqi Fu* (China, Mainland)
- P.33 Polarization Characteristics and Angle Measurement Curve of Monopulse Radar Antenna  
*Cuiqiong Mo, Guoliang Wang, Huanyao Dai, Jianlu Wang, Zheng Wang* (China, Mainland)
- P.34 Low Angle Target Detection Method for UHF Non-cooperative Radar in Multipath  
*Panhe Hu, Pengjiang Hu, Qinglong Bao, Zengping Chen* (China, Mainland)
- P.35 A Joint DOA-DOD Estimation Based on Improved ESPRIT Method for Bistatic MIMO Radar  
*Yurou Tian, Jingqi Wang, Can Cui, Jing Tan, Wei Xue* (China, Mainland)
- P.36 A Compact Wideband Coupler for Single-Antenna Microwave Radar  
*Xiaoqiang Li, Ming Cai, Wei Shi, Guangli Yang* (China, Mainland)
- P.37 Design and Implementation of a Radar Waveform Playback System for Real-time Digital Signal Processing Test  
*Yingxiao Zhao, Yang Su, Rui Huang, Pengjiang Hu, Zengping Chen* (China, Mainland)

- P.38 A Compact Bandpass Filter Based on Co-design of Highly Efficient Power Amplifier  
*Sheng Fang, Zeming Xie* (China, Mainland)
- P.39 A Velocity Estimation Algorithm for Stepped Frequency Radar Combining Keystone Transform and Radon Transform  
*Ruiqi Tian, Caiyong Lin, Qinglong Bao, Zengping Chen* (China, Mainland)
- P.40 Efficient Numerical Model for Radar Imaging for Targets within a Half-Space  
*Yue Wang, Zai-ping Nie, Xin Qi* (China, Mainland)
- P.41 S-band T/R Module in Massive MIMO System for 5G Mobile Communication  
*Xiao Hu, Jianzeng Zhang, Zhipeng Zhou* (China, Mainland)
- P.42 Simulation and Analysis of Influence of Ranging Error on Location Estimation Accuracy  
*Xiaojun Zhang, Yuanjian Liu, Shuangde Li, Xiang Zhu* (China, Mainland)
- P.43 Post-wall Slotline-Microstrip Line Transition for Short Pulse Transmission  
*Ying Zhuang, Shunli Li, Yufu Li, Hongxin Zhao, Xiaoxing Yin* (China, Mainland)
- P.44 Design of Low-Loss Coaxial Cavity Bandpass Filter using in Broadcasting with Full-channel Tuning Capabilities  
*Xiaodi Zhang, Qiang Sui, Qi Wang, Pingzhong Wang, Xiaoyang Wang* (China, Mainland)
- P.45 Low-Voltage Transformer-Based LNA with WuRx Switch and Chip Antenna with Body Analysis  
*Wen-Cheng Lai* (Taiwan)
- P.46 Multiband and Tuneable Antenna with WuRx Design by FDTD Method for Device with Human Body  
*Wen-Cheng Lai* (Taiwan)
- P.47 A Wideband Switched Beam Antenna for Full 360° Coverage  
*Yang Li, Zhang-Cheng Hao* (China, Mainland)
- P.48 A Low Profile Meander Line Circular Polarizer for Wideband Applications  
*Peng Fei, Weihua Guo, Peng Zhang, Xin Wen* (China, Mainland)
- P.49 Integrated Optimization of Antenna Arrays with Radome based on Particle Swarm Optimization  
*Ziyu Lu, Chang Zhai, Xunwang Zhao, Yu Zhang* (China, Mainland)
- P.50 Analysis of Radome-antenna Systems using Higher-order Basis based Domain Decomposition Method  
*Hao Li, Yingyu Liu, Daniel GarciaDonoro, Zhongchao Lin, Yu Zhang* (China, Mainland)
- P.51 Modeling of Dielectric Rectangular Wave Ports for Higher-order Method of Moments  
*Yuan Wang, Zhongchao Lin, Daniel GarciaDonoro, Yu Zhang* (China, Mainland)
- P.52 Wideband Dual-Sense Circularly Polarization Helical Antenna with Axial Dual-Beam Operation  
*Yanqun Liu, Xiaoxing Yin, Hongxin Zhao, Shunli Li* (China, Mainland)
- P.53 Design of a novel 100kHz~6GHz Isotropic Electric-field Probe  
*Jiawen Sun, Yong Wang, Jinxian Liu, Wanshun Jiang* (China, Mainland)
- P.54 Design of a Novel 3MHz~18GHz Isotropic Electric-field Probe  
*Jiawen Sun, Qiantao Cao, Yong Wang, Jinxian Liu, Wanshun Jiang* (China, Mainland)
- P.55 Design and Simulation of Energy Selective Radome Integrated with Monopole Antenna  
*Qihui Zhou, Peiguo Liu, Ke Wang, Hao Tu, Hanqing Liu* (China, Mainland)
- P.56 A Dual-band Left-handed Metamaterial Composed of Double E-shaped Intersections in 3D Periodic Arrangement  
*Haixiong Li, Jun Ding, Chenjiang Guo* (China, Mainland)
- P.57 Compact Spoof Surface Plasmon Polaritons Guide  
*Zhixia Xu, Shunli Li, Hongxin Zhao, Leilei Liu, Xiaoxing Yin* (China, Mainland)



- P.58 Tunable Periodic Slow-Wave Transmission Line  
*Xin Zhang, Zhixia Xu* (China, Mainland)
- P.59 A Novel Dual-Band Frequency Selective Surface with Close Band Spacing at Ka-Band  
*Zhenzhen Zhao, Ying Yang, Huimin Huo, Jianxing Li, Jianzhong Chen, Anxue Zhang* (China, Mainland)
- P.60 Far-field and near-field wavefront manipulations enabled by metasurfaces  
*Yue Li, Shiyi Xiao, Qiong He, Shulin Sun, Lei Zhou* (China, Mainland)
- P.61 Polarization conversion with asymmetrical and symmetrical metasurface  
*Wenlin Zheng, Shiyi Xiao, Shaojie Ma, Yue Li, Weijie Luo, Lei Zhou* (China, Mainland)
- P.62 Multi-layer Frequency Selective Surface with Lowfrequency Ultra-wide Band-pass Response  
*Qiang Zhao, Tao Hong\*, Wen Jiang, Shuxi Gong* (China, Mainland)
- P.63 Design, Simulation and Measurement of An Omega Metamaterial at X band  
*Dahai Hu, Rui Zhao, Liuge Du, Yahai Wang* (China, Mainland)
- P.64 Design of polarization converter based on the high efficiency transmission phase gradient metasurface  
*Zhi Li, Jianxun Su, Zengrui Li* (China, Mainland)
- P.65 A Miniaturized Dual-band Frequency Selective Surface with Close Band Spacing  
*Mingbao Yan, Cuilian Xu, Zhiqiang Li, Wenjie Wang, Lin Zhen, Jieqiu Zhang, Jiafu Wang, Shaobo Qu* (China, Mainland)
- P.66 A Broadband Rejection Filter Based on Spoof Surface Plasmon Polaritons  
*Weijie Fu, Youfei Zhang, Haogang Wang* (China, Mainland)
- P.67 Modeling Thin Graphene Sheets with Efficient 2-D WLP-FDTD Method  
*Qi-Yuan Zhu, Wei-Jun Chen* (China, Mainland)
- P.68 A Method of Constructing Preconditioners for IE-ODDM  
*Guang-Yu Zhu, Hou-Xing Zhou, Yi-Zhi Li, Wei Hong* (China, Mainland)
- P.69 Brightness Temperature Radiation Imaging Simulation Based on Fast Ray Tracing Method  
*Menglu Qiao, Gang Liu, Ting Fang, Cheng Chen, Yuyun Hu, Chuan Yin* (China, Mainland)
- P.70 Multiple One-dimensional Finite-Difference Time-Domain Method for Asymmetric Coupled Transmission Lines  
*Zaifeng Yang, Eng Leong Tan* (Singapore)
- P.71 Analysis of Brewster Effect from Dielectric Sea Surface with Foams  
*Wanmeng Liu, Chuangming Tong, Tong Wang, Siyu Huang* (China, Mainland)
- P.72 Building ODDM Based on Calderón Preconditioned CFIE  
*Guang-Yu Zhu, Hou-Xing Zhou, Wei Hong* (China, Mainland)
- P.73 Fast Fitting MEI's Coefficients with Mur's Coefficients Based on Finite Difference Method  
*Xiangwu Zhang, Lianyou Sun, Wei Hong* (China, Mainland)
- P.74 ISAR Imaging of Rough Surface Targets Based on A Terahertz Radar System  
*Qi Yang, Bin Deng, Hong-qiang Wang, Yu-Liang Qin* (China, Mainland)
- P.75 Two-Layered Rough Surfaces Modeling Based on the Physical Optics in Terahertz Gap  
*Rui Wang, Ce Zhang, Lixin Guo, Zhibin Zhang* (China, Mainland)
- P.76 A Millimeter-Wave Scanning Imaging Method for Fast Personal Screening  
*Yanwen Jiang, Bin Deng, Hongqiang Wang, Yuliang Qin, Zhaowen Zhuang* (China, Mainland)

**2017-10-19 PM**

Room A

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**ORAL Session: TP1A**

**Special Session: New Generation Antenna Array Synthesis: Methods, Algorithms, Architectures, and Applications - Organizers: Andrea MASSA, Renato LOMBARDI, and Nicola ANSELM**

Session Chairs: Andrea MASSA, Renato LOMBARDI and Nicola ANSELM

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- 13:30 - 13:50 Low Sidelobe Nulling of Sparse Linear Array Using a Hybrid Method  
*Ruiqi Wang, Yong-Chang Jiao (China, Mainland)*
- 13:50 - 14:10 Robust Diagnosis of Planar Antenna Arrays Through A Bayesian Compressive Sensing Approach  
*Angelo Gelmini, Marco Salucci, Giacomo Oliveri, Andrea Massa (France)*
- 14:10 - 14:30 Luneburg Lens Imaging with Compressive Sensing  
*Qiao Cheng, Akram Alomainy, Yang Hao (United Kingdom)*
- 14:30 - 14:50 Design of a Dual-Band Orthogonally Polarized Transmitarray using 3-Dipole Elements  
*Abdul Aziz, Fan Yang, Shenheng Xu, Maokun Li (China, Mainland)*
- 14:50 - 15:10 Antenna Measurements by Design: A Novel Paradigm for Antenna Testing  
*Marco Salucci, Giorgio Gottardi, Daniele Pinchera, Marco DonaldMigliore (France)*
- 15:10 - 15:30 UHF RFID Reader Antenna Using Oppositely Directed Group Currents for Large Identification Area  
*Haiyong Zhang, Cheng Huang, Jinqun Ge, Wanchun Tang (China, Mainland)*
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**ORAL Session: TP2A**

**Special Session: New Generation Antenna Array Synthesis: Methods, Algorithms, Architectures, and Applications - Organizers: Andrea MASSA, Renato LOMBARDI, and Nicola ANSELM**

Session Chairs: Andrea MASSA, Renato LOMBARDI and Nicola ANSELM

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- 15:50 - 16:10 Exploiting Modularity for New Generation Array Architectures - Analytic Tiling in Array Synthesis  
*Paolo Rocca, Andrea Massa (Italy)*
- 16:00 - 16:30 Innovative Antenna Synthesis Paradigm for New Generation Telecommunications Systems  
*Giacomo Oliveri, Andrea Massa (Italy)*
- 16:30 - 16:50 Efficient Pattern Synthesis of Large Scale Four-Dimensional Heterogeneous Antenna Arrays  
*Feng Yang, Shiwen Yang, Yikai Chen (China, Mainland)*
- 16:50 - 17:10 Millimeter Wave High Gain Antenna Based on Gap Waveguide Technology  
*Ashraf Uz Zaman, Thomas Emanuelsson (Sweden)*
- 17:10 - 17:30 Sparse Antenna Array Design for Massive MIMO Systems  
*Daniele Pinchera, Marco DonaldMigliore (Italy)*
- 17:30 - 17:50 Millimeter-Wave Technology Trends for 5G Antenna Arrays and Massive MIMO Architectures - An Industry View  
*Renato Lombardi (Italy)*
- 17:50 - 18:10 Technology challenges in massive-MIMO radiating platforms  
*André DOLL, Jean-Pierre HAREL (France)*

**2017-10-19 PM**

Room B

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**ORAL Session: TP1B**

**Antennas**

Session Chairs: Hang Wong and Er-Ping Li

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- 13:30 - 14:00 A Wideband Millimeter-Wave CP Antenna with Gain Enhancement (**invited**)  
*Hang Wong, Kaixu Wang, Lei GE, Faping Wang* (Hong Kong)
- 14:00 - 14:20 Novel Dual-Polarized and Closely Dual-Band Filtering Patch Antenna Array With Good Band-Notched Function  
*Mengzhu Xun, Wanchen Yang, Wenjie Feng, Wenquan Che, Huayan Jin* (China, Mainland)
- 14:20 - 14:40 A Compact Microstrip Antenna with Four Operating Frequency Points  
*Zhiwei Song, Erping Li, Hongxing Zheng, Mengjun Wang* (China, Mainland)
- 14:40 - 15:00 Design of Quad-band Antenna  
*Zixiang Lin, Xia Wang, Hongxing Zheng, Mengjun Wang, Er-ping Li* (China, Mainland)
- 15:00 - 15:20 Performance Improvement and Size Reduction of Vivaldi Antennas using Defected Ground Structure  
*Hamza Abbas Kiani* (Pakistan)
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**ORAL Session: TP2B**

**Antennas**

Session Chairs: Heyongdong Kim and Junping Geng

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- 16:00 - 16:30 Ground Radiation Antenna for Mobile Devices (**invited**)  
*Longyue Qu, Hyung-Hoon Kim, Heyongdong Kim* (South Korea)
- 16:30 - 16:50 A Dual-Band Implantable Antenna Designed for Wireless Medical Applications  
*Wen-Jie Cui, Hong-Xing Zheng, Lu Wang* (China, Mainland)
- 16:50 - 17:10 Generating wideband orbital angular momentum beams using helical antenna  
*Xiangyue Zhang, Jiayu Zheng, Shilie Zheng, Xianbin Yu, Hao Chi, Xiaofeng Jin, Xianmin Zhang* (China, Mainland)
- 17:10 - 17:30 Realization of Various OAM Divergence Angles Based on Fabry-Perot Antenna Design  
*Maohua Zhu, Xianling Liang, Yu Yao, Kaijie Zhuang, Chaofan Ren, Weiren Zhu, Junping Geng, Ronghong Jin* (China, Mainland)
- 17:30 - 17:50 A Miniaturized Quad-band Printed Antenna  
*Xing An, Zhen-Bin Gao, Hong-Xing Zheng, Meng-Jun Wang, Er-ping Li* (China, Mainland)

**2017-10-19 PM**

Room C

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**ORAL Session: TP1C**

**Antennas**

Session Chairs: Qi Wu and Xue-Song Yang

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- 13:30 - 14:00 Understanding Antenna Mutual Coupling through Characteristic Modes (**invited**)  
*Qi Wu* (China, Mainland)
- 14:00 - 14:20 Novel High-Efficiency High-Order-Mode Cavity-backed Array Antenna Using Metasurfaces With Complemental Boundaries  
*Si Chen, Wanchen Yang, Wenquan Che, Qian Meng, Huiting Yu* (China, Mainland)
- 14:20 - 14:40 Effect of Geometrical Parameters on Beam Scanning Characteristics of Reflector Antennas  
*Shengpu Niu, Biao Du, Yang Wu* (China, Mainland)
- 14:40 - 15:00 Gain Enhanced Compact Patch Antenna-in-Package Based on Embedded Wafer Level Packaging  
*Jie Wang, Jing Wang, Cheng Jin* (China, Mainland)
- 15:00 - 15:20 A Directional Implantable Antenna Operating at ISM Band  
*Shu-Xian Dong, Jia-Xing Wang, Pei-Pei Zhang, Li-Rong Zhao, Chengzhu Du, Wei-Hua Zong, Shandong Li* (China, Mainland)
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**ORAL Session: TP2C**

**Antennas**

Session Chairs: Qiang Cheng and Xiuping Li

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- 16:00 - 16:30 Controlling the scattering features of electromagnetic waves by metasurfaces (**invited**)  
*Qiang Cheng* (China, Mainland)
- 16:30 - 16:50 Design of Tri-band Antenna for WiMAX  
*Dong Nie, Xia Wang, Hong-Xing Zheng, Mengjun Wang, Er-ping Li* (China, Mainland)
- 16:50 - 17:10 Design of Coaxial-Fed Slot-Loaded Dual-Band Microstrip Antenna  
*Xin-Yan Wang, Zhen-Bin Gao, Hong-Xing Zheng, Meng-Jun Wang, Er-ping Li* (China, Mainland)
- 17:10 - 17:30 Triple-Band Triple-Mode Microstrip Endfire Antenna Based on Periodic Bowtie Dipoles  
*Zhiyuan Zeng, Wenquan Cao, Xinmeng Lv* (China, Mainland)
- 17:30 - 17:50 A High Gain OAM Antenna Based on Splitting Spiral Phase Plate for C band  
*Ling Zhang, Hua Zhu, Xiuping Li* (China, Mainland)

**2017-10-19 PM**

Room D

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**ORAL Session: TP1D**

**Wave Propagation**

Session Chairs: Quan Xue and Weibing Lu

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- 13:30 - 14:00 A Distributed Packaging Antenna for A 300-GHz CMOS Radiator (**invited**)  
*Quan Xue, Wuhan Liang, Shaowei Liao* (Hong Kong)
- 14:00 - 14:20 Cluster-Based Analysis of Wideband Millimeter-Wave Channel for Corridor Environment  
*Peize Zhang, Hongbo Wang, Haiming Wang, Xiangqian Sun, Yu Zhou* (China, Mainland)
- 14:20 - 14:40 Simulation and Analysis of UWB Propagation Characteristics in Indoor Complex Environments Based on TD-UTD  
*Zhipeng Chen, Yuanjian Liu, Shuangde Li, Zhong Sheng* (China, Mainland)
- 14:40 - 15:00 Measurement and Simulation of Wideband Channel Characterization in the Underground Tunnel Environment  
*Shuangde Li, Yuanjian Liu, Leke Lin, Zhipeng Chen, Xiaojun Zhang, Xiang Zhu* (China, Mainland)
- 15:00 - 15:20 Measurement-Based Vehicle Exterior Channel Characteristics in 45-GHz Band  
*Zhemin Shen, Haiming Wang, Chen Yu, Wei Hong* (China, Mainland)
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**ORAL Session: TP2D**

**Antennas**

Session Chairs: Y. Jay Guo and Zhipeng Zhou

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- 16:00 - 16:30 Reconfigurable Partially Reflective Surface Antennas (**invited**)  
*Pei-Yuan Qin, Y. Jay Guo, Lu-Yang Ji* (Australia)
- 16:30 - 16:50 An Cassegrain Reflector Antenna with an Elliptic Beam of Large Axial Ratio  
*Shanhong He, Xiaojia Lu, Wenkai Li, Chong Fan* (China, Mainland)
- 16:50 - 17:10 A Wideband Planar Elliptical Dipole Antenna for Millimeter-Wave Silicon Applications  
*Jinping Zhang, Zhipeng Zhou* (China, Mainland)
- 17:10 - 17:30 Bow-Tie Slot Antenna Based on Circular Substrate Integrated Waveguide Cavity  
*Shui Liu, Feng Xu, Lewei Cao, Ke Wu* (China, Mainland)
- 17:30 - 17:50 A Planar Low Side-lobe Waveguide Slots Antenna Array  
*Qing Liang, Liangyang Zhang, Zhaoneng Jiang, Yekui Zhong, Han Wen, Fang Sun, Chao Mo* (China, Mainland)

**2017-10-19 PM**

Room E

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**ORAL Session: TP1E**  
**Electromagnetics**

Session Chairs: Satoshi Yagitani and Mingyao Xia

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- 13:30 - 14:00 Field Distribution Measurement and Source Estimation Using Metamaterial Absorber  
**(invited)**  
*Satoshi Yagitani, Naoki Tonooka, Ryohei Kanaura, Mitsunori Ozaki, Tomohiko Imachi, Yoshiyuki Yoshimura, Hirokazu Sugiura (Japan)*
- 14:00 - 14:20 Time-Domain Finite Difference Analysis of EMP Coupling to Double Wires  
*Zhongwei Yang, Feng Xu, Junlin Zhan, Ke Wu (China, Mainland)*
- 14:20 - 14:40 Synthesizing Orbital Angular Momentum Beam with Small Divergence Angle  
*Yu Yao, Xianling Liang, Weiren Zhu, Junping Geng, Ronghong Jin (China, Mainland)*
- 14:40 - 15:00 Electromagnetic Fields Induced by the Wake of a Moving Slender Body in Two-Layer Ocean of Infinite Depth  
*Zhihua Xu, Changping Du, Mingyao Xia (China, Mainland)*
- 15:00 - 15:20 Enhancement of the Radar Cross Section Using Metasurfaces  
*Mohammed Kalaagi, Hussein Srour, Divitha Seetharamdoo (France)*
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**ORAL Session: TP2E**  
**Antennas**

Session Chairs: Motoyuki Sato and Yue Li

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- 16:00 - 16:30 Recent Research Activities on Ground Based Synthetic Aperture Radar (GB-SAR)  
**(invited)**  
*Motoyuki Sato, Lilong Zou, Kazutaka Kikuta, Amila Karunathilake, Weike Feng (Japan)*
- 16:30 - 16:50 Metamaterial-inspired Microstrip Antennas for Wireless Communication Systems  
*Wangyu Sun, Yue Li, Zhijun Zhang, Zhenghe Feng (China, Mainland)*
- 16:50 - 17:10 A Compact Size Broadband Dipole Type Antenna  
*Wen-xin Yan, Jian-Ying Li, Du-Juan Wei (China, Mainland)*
- 17:10 - 17:30 A Wideband Circularly-Polarized Crossed Dipole Antenna  
*Jie Ren, Xianling Liang, Junping Geng, Weiren Zhu, Ronghong Jin (China, Mainland)*
- 17:30 - 17:50 Ultra-thin Wideband Antenna for 5G MIMO Application of Mobile Device  
*Daqing Liu, Ming Zhang, Huailin Wen, Jun Wang (China, Mainland)*

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Room F

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**ORAL Session: TP1F**

**Antennas**

Session Chairs: Xiaodong Chen and Ikmo Park

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- 13:30 - 14:00 A Wideband Dual-polarized Slot Antenna Array for High-gain Millimeter-wave Communications (**invited**)  
*Zhijiao Chen, Limei Qi, Xiaoming Liu, Yuan Yao, Junsheng Yu, Xiaodong Chen* (United Kingdom)
- 14:00 - 14:20 A Miniaturized Circular Polarized Yagi Antenna  
*Zhangmin Wu, Changzhou Hua, Yunlong Lu, Yan Ye, Xueqin Huang* (China, Mainland)
- 14:20 - 14:40 Vertically Integrated Circularly Polarized Filtering Antenna using Substrate Integrated waveguide Technology  
*W. He, Y.L. Lu, T.J. Liu, J.F. Huang* (China, Mainland)
- 14:40 - 15:00 Performance Analysis of SKA Dish  
*Shengwen Liu, Biao Du, Yang Wu, Guoxi Liu* (China, Mainland)
- 15:00 - 15:20 A Substrate Integrated Magneto-Electric Dipole Antenna Using Metasurface for 2G/3G/LTE/5G Applications  
*Jiexin Lai, Botao Feng, Qingsheng Zeng, Kwok L. Chung* (China, Mainland)
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**ORAL Session: TP2F**

**Antennas**

Session Chairs: Jin Shi and Mang He

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- 16:00 - 16:30 Antenna with enhanced bandwidth and filtering response (**invited**)  
*Jin Shi* (China, Mainland)
- 16:30 - 16:50 Design of a dual-band conformal antenna on a cone surface for missile-borne  
*Changling Chen, Huili Zheng* (China, Mainland)
- 16:50 - 17:10 Single-layer Proximity-fed Square Ring Antenna with a Small Frequency-Ratio for Dual-band GNSS Applications  
*Jia-yi Ren, Hu Yang* (China, Mainland)
- 17:10 - 17:30 A Wideband and Low-Unroundness Printed Conical Equiangular-Spiral Antenna  
*Chunbo Wu, Mang He, Chuanfang Zhang* (China, Mainland)
- 17:30 - 17:50 A Three-Element Dual-Polarized Antenna Array with Beamwidth Reconfiguration  
*Yating Tu, Botao Feng, Mengyu Wang, Xiaoyuan He, Qingsheng Zeng* (China, Mainland)

**2017-10-19 PM**

Room G

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**ORAL Session: TP1G (Joint Session)**

**Nanotechnology and Materials & IC and Semiconductor EMC**

Session Chairs: Jian Wang and Bo Zhang

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- 13:30 - 13:50 Study on a Co-simulation Scheme for the EMI Effects Analysis of Transmission Line Network (**invited**)  
*Jian Wang, Jun Luo* (China, Mainland)
- 13:50 - 14:10 Numerical Computation of Large-scale Distributed Grounding System in Complex Soil Structure (**invited**)  
*Bo Zhang* (China, Mainland)
- 14:10 - 14:30 Multiband and Tuneable Antenna with WuRx Design by FDTD Method for Device with Human Body  
*Wen-Cheng Lai* (Taiwan)
- 14:30 - 14:50 Triple-band Wide-angle Ultrathin metamaterial absorber  
*Yao Ma, Jun Liu, Liyuan Su, Feng Lu* (China, Mainland)
- 14:50 - 15:10 Three-dimensional co-polarization reflection metamaterial  
*Qiqi Zheng, Yongfeng Li, Jiafu Wang, Yang Shen, Shaobo Qu, Jieqiu Zhang* (China, Mainland)



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Room H

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**ORAL Session: TP1H (Joint Session)**

**Computational Electromagnetics & Multiphysics & Wireless  
Communication EMC**

Session Chairs: Guangyu Zhang and Sherman S. Chen

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- 13:30 - 13:50 Exposure protection to electric and magnetic fields from vehicle: a review (**invited**)  
*Guangyu Zhang* (China, Mainland)
- 13:50 - 14:10 Derive Crosstalk Limit From ICN (**invited**)  
*Sherman S. Chen, Doron Lapidot* (China, Mainland)
- 14:10 - 14:30 A Band-Limited CPWL-based Memory Polynomial Model for Digital Predistortion  
*Yang Li, Jianfeng Zhai, Chao Yu, Zhengbo Jiang, Lei Zhang* (China, Mainland)
- 14:30 - 14:50 The Characteristic Research of Electromagnetic Field Distribution Within The Building  
*Zhihong Ye, Yang Wang, Yu Shao* (China, Mainland)
- 14:50 - 15:10 Simulation on Microwave Multimode Cavity Heating with a Rotating Metal Block  
*Qian Meng, Youqi Deng, Yuanyuan Wu* (China, Mainland)

# 陕西宾馆平面示意图 (Shaanxi Guesthouse)

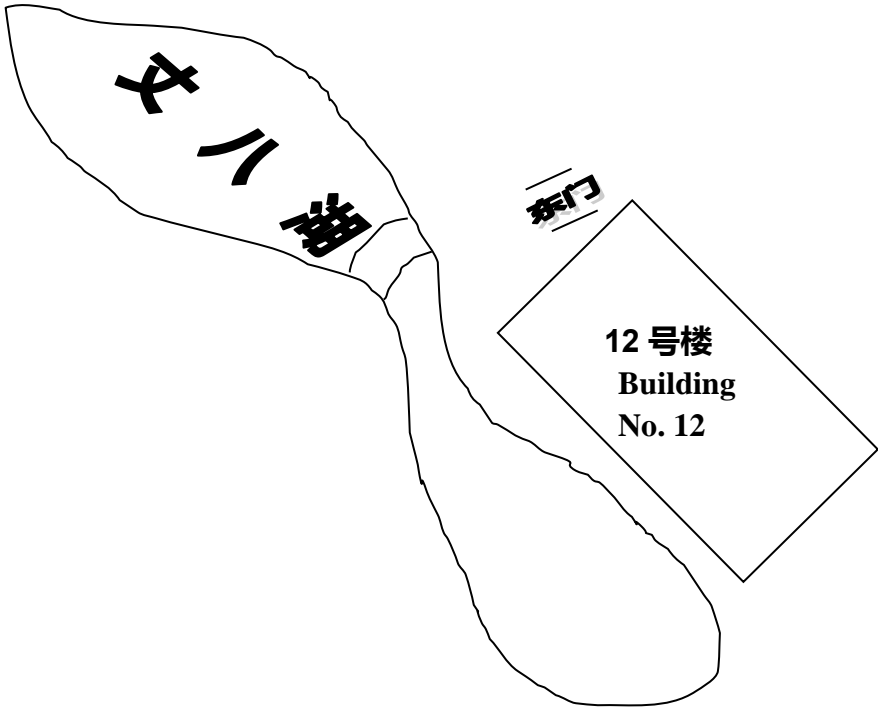
| 北门 |



18 号楼  
Building No. 18

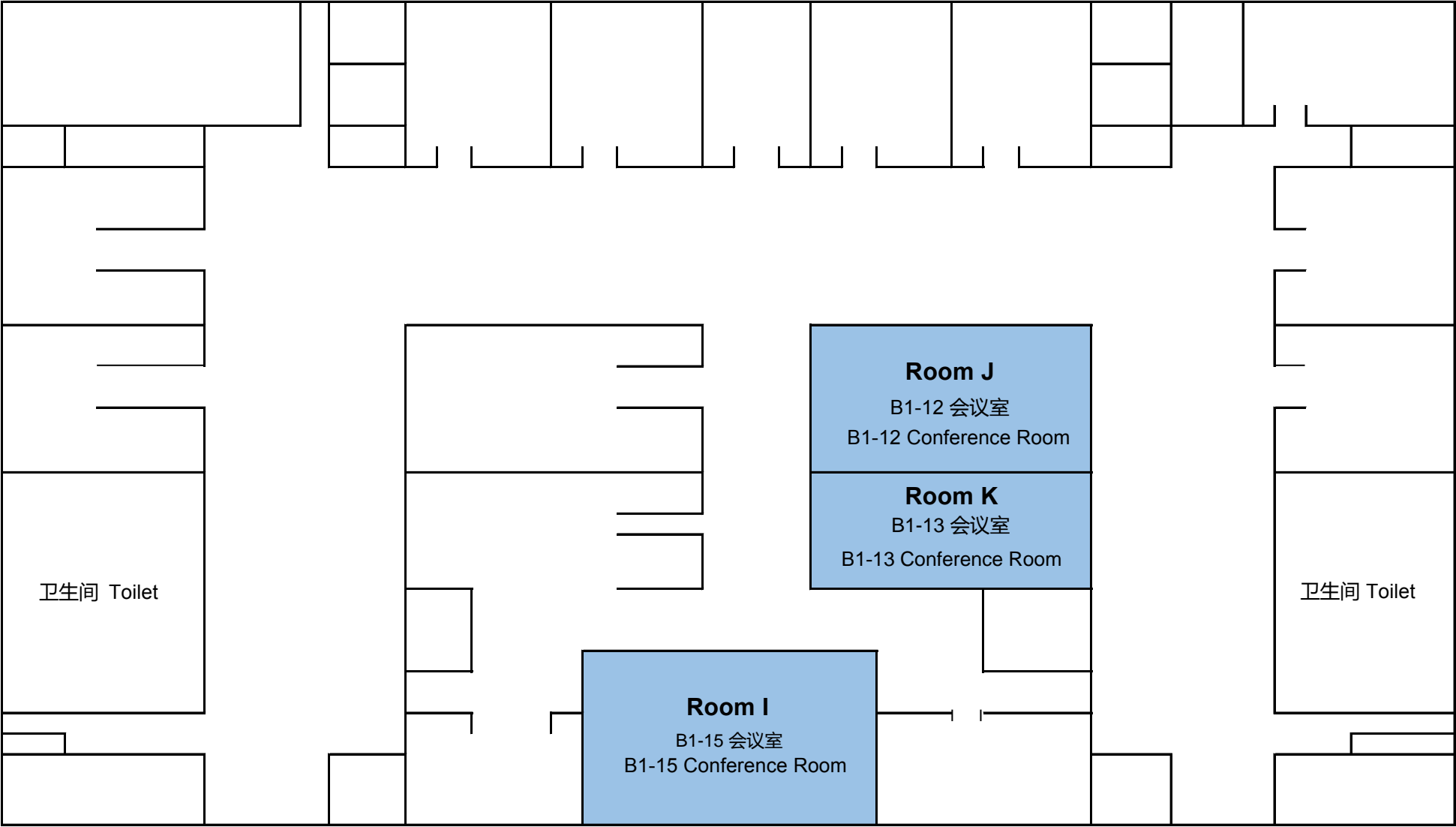


陕西大会堂  
(Conference Venue)  
The Great Hall of  
Shaanxi

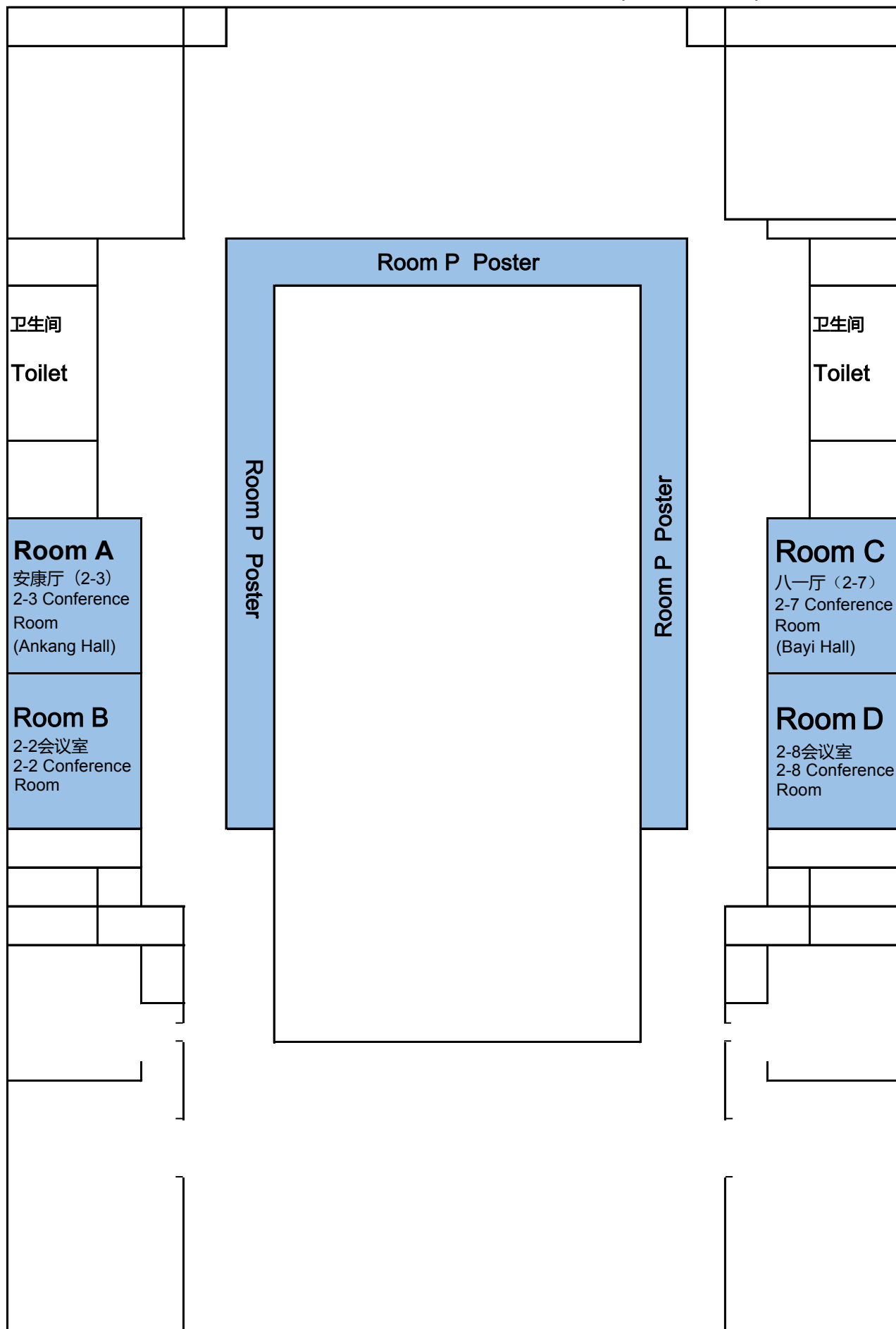


陕西大会堂平面图 ( 负一层 )

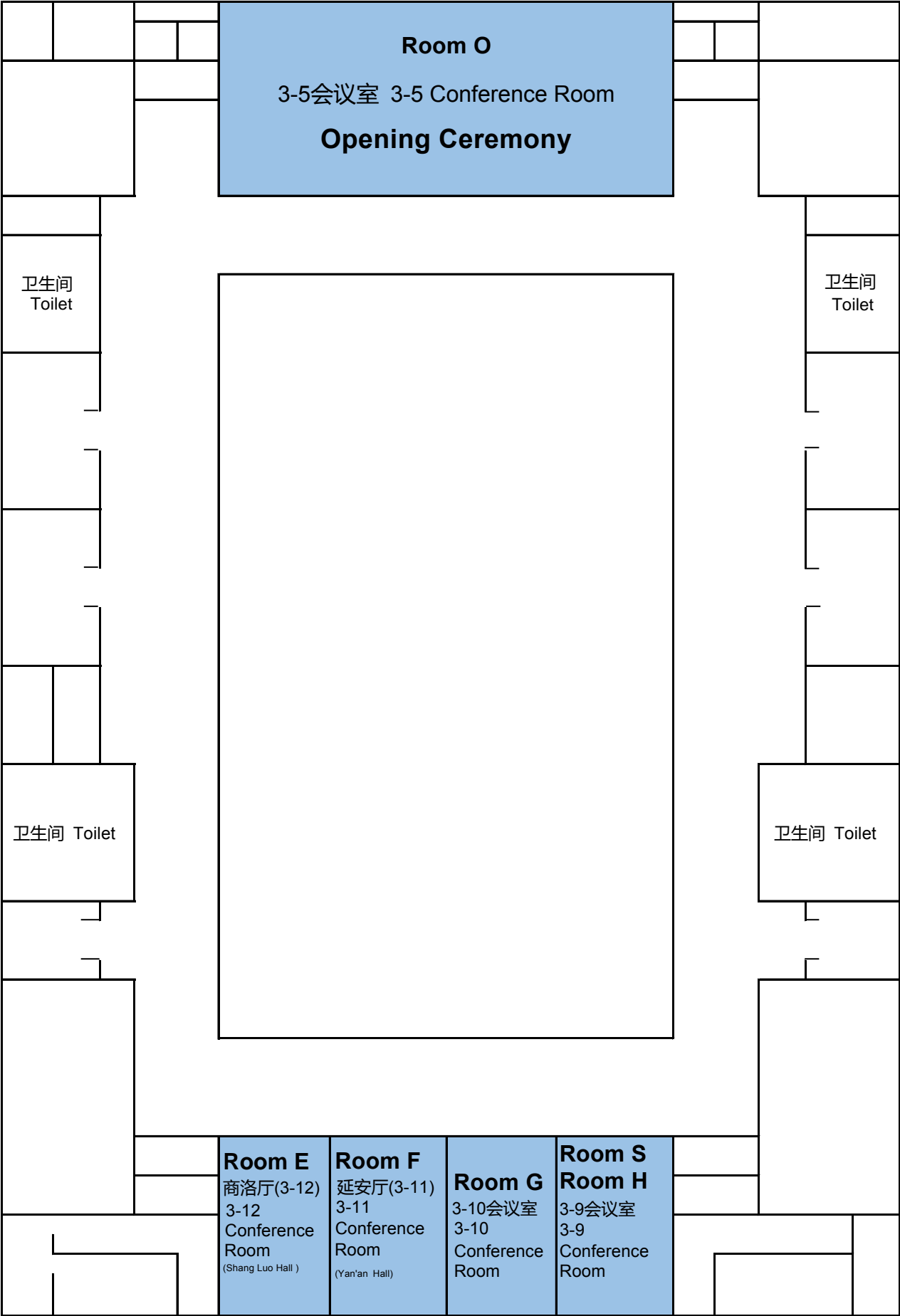
Floor Plan of Shaanxi Gnesthonse (Negative 1st Floor)



## Floor Plan of Shaanxi Gnesthonse (2nd Floor)



陕西大会堂平面图 ( 三层 )  
Floor Plan of Shaanxi Gnesthonse (3rd Floor)





## About us

General Test Systems Inc.(GTS) is a test system provider with fast growth, specializing in mobile terminal OTA test solutions. Being a member of CTIA, GTS is among the rare original equipment vendors who can deliver CTIA certified OTA test systems. Besides, GTS also has a strong ability of manufacturing key components for various EM tests requirement, such as innovative EPP absorbers/Measurement antennas/Dipoles/Loop Antennas/WLAN amplifiers, and etc.

